2008

# The influence of athlete leadership behaviors on perceptions of team cohesion

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# The Influence of Athlete Leadership Behaviors on Perceptions of Team Cohesion

By

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A Thesis Defense

Submitted to the Faculty of Graduate Studies

through Human Kinetics

in Partial Fulfillment of the Requirements for

the Degree of Master of Human Kinetics at the

University of Windsor

Windsor, Ontario, Canada

2008

*Your file Votre référence*
*ISBN: 978-0-494-42277-9*
*Our file Notre référence*
*ISBN: 978-0-494-42277-9*

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## Abstract

The purpose of the present study was to examine the influence of athlete leadership behaviors on perceptions of team cohesion. The participants were 315 athletes from 26 varsity and club teams. Each participant completed the Group Environment Questionnaire (Carron, Widmeyer, & Brawley, 1985), which assessed cohesion and the Leadership Scale for Sport (Chelladurai & Saleh, 1980) that assessed athlete leadership behaviors. Because athletes are nested within teams, a multilevel multivariate analysis was used to analyze the data at the individual and team level. Overall, it was found that Training and Instruction, and Social Support positively influenced all four dimensions of cohesion (Individual Attractions to the Group - Task, Individual Attractions to the Group - Social, Group Integration -Task and Group Integration - Social). Furthermore, Autocratic Behavior was negatively associated with the four dimensions of cohesion. Finally, Democratic Behaviour was positively related to Individual Attractions to the Group - Task. Findings from the present study provide coaches and sport psychologist with evidence that it is important to foster the development of athlete leader behaviors in order to influence the team environment.

Acknowledgements

First, I had the honor of working with a great mentor and advisor, Dr. Todd Loughead. He assisted me with a multitude of advice and guidance. Also, Todd's dedication and encouragement towards his graduate students is astounding and for that I am truly grateful. And, finally Todd did not accept anything but hard work, perseverance and excellence. I appreciate everything he has taught me and I will continue to carry his teachings with me throughout my career and all aspects of life.

Also, I extend my gratitude to my committee members Dr. Krista Chandler and Dr. Maher El-Masri. I appreciate the extensive time they put into the reading, and editing of my document and all of their suggestions and comments. All of their assistance throughout this process has made me a better researcher. I believe this thesis is better because these two successful researchers were an integral part of the process.

Next, I would like to thank my colleagues, Ashleigh and Trista. I admire their courage and compassion and appreciate their impressive motivating, yet calming techniques. They were a constant support system when life was difficult and were always able to maintain a light perspective on every situation.

I would also like to extend my appreciation to my mom, brother and nan for their motivation and unconditional love. I wouldn't have gotten to this point in my life without their constant support and early teachings. They always pushed me to follow my dreams and never give up on anything until success was achieved. They have always been a constant support system that I could always count on. Thank you to my mom, my first and favorite teacher.

Finally, I would like to express my gratitude to my husband, without whom this would not have been possible. Doug showed me continued support and patience as I worked through the past two years. I will never forget the kind words of encouragement I received many days and nights, while starring at a blank page. Doug reminded me constantly that there is no goal that is unreachable. He always had faith in me, and pushed me to strive for excellence. Doug gave me strength, courage and confidence and without him, I would not be where I am today.

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# RESEARCH ARTICLE

## Introduction

The importance of team cohesion has been recognized by researchers and practitioners for many years (e.g., Hardy, Eys, & Carron, 2005; Paskevich, Estabrooks, Brawley, & Carron, 2001). Carron, Brawley, and Widmeyer (1998) defined cohesion as "a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (p. 213). It has been shown that high levels of team cohesion will result in enhanced performance. In fact, several empirical studies have shown the importance of cohesion in regards to performance (e.g., Carron & Ball, 1978; Carron, Colman, Wheeler, & Stevens, 2002; Martens & Petterson, 1971). Although a good portion of the research has focused on the cohesion-performance relationship, Westre and Weiss (1991) emphasized the importance of identifying factors influencing the development of team cohesion.

In order to guide researchers interested in identifying the factors influencing cohesion, Carron (1982) developed a linear conceptual framework consisting of antecedents, throughputs, and consequences (Figure 1). The antecedents of the model are classified as environmental, personal, team, and leadership factors. Environmental factors are referred to as organizational orientation and contractual responsibility. Examples of these include the age and maturity of the athletes (Chelladurai & Carron, 1983). Next, personal factors refer to individual factors such as personal motivation (Widmeyer & Williams, 1991), status (Gruber & Gray, 1982), gender (Paiement & Bischoff, 2007), and individual satisfaction (Lowther & Lane, 2002). Team factors refer to group factors such as team norms (Gammage, Carron, & Estabrooks, 2001), team stability (Carron,

Widmeyer, & Brawley, 1985), and collective efficacy (Paskevich, Brawley, Dorsch, & Widmeyer, 1999). Finally, leadership factors include leader behaviors and leadership style (Schriesheim, 1980), the coach-athlete relationship (Carron & Chelladurai, 1981), and the coach-team relationship (Schachter, Ellertson, McBride, & Gregory, 1951).

The antecedents contained in Carron's (1982) conceptual framework are hypothesized to influence an individual's perception of cohesion. Carron et al. (1985) operationalized cohesion into four distinct dimensions: Individual Attractions to the Group -Task, Individual Attractions to the Group - Social, Group Integration - Task, and Group Integration - Social (see Appendix B). The Individual Attractions to the Group - Task dimension pertains to an individual team member's feelings about his/her personal involvement concerning the group's productivity and goals. The Individual Attractions to the Group - Social dimension is defined as the individual team member's feelings about his/her personal acceptance and social interactions within the team. The Group Integration - Task dimension refers to the individual team member's feelings about the similarity, closeness, and unity within the group as a whole around the team's task objectives. Finally, Group Integration - Social can be viewed as the individual team member's feelings about the similarity, closeness, and unity concerning the team as a social unit.

The consequences of Carron's (1982) conceptual framework include, but are not limited to, variables such as performance, athlete satisfaction, intention to return, and perceived belonging. Previous research has shown that athletes who perceive higher levels of cohesion are more likely to have better performances (Carron, Colman, et al., 2002), increased individual satisfaction (Widmeyer & Williams, 1991), an increased

sense of perceived belonging (Allen, 2006), and intend to return to the team in the following season (Spink, 1998).

As already noted, Westre and Weiss (1991) highlighted the importance of identifying the variables that influence perceptions of cohesion. Although a strong argument could be made that each of the four antecedents contained in Carron's (1982) conceptual framework are important for the development of cohesion, the antecedent of leadership may be the most important because it is possibly the most closely related variable to group effectiveness (Carron, Hausenblas, & Eys, 2005).

Given the importance of leadership in sport, several research studies have examined coaching behaviors, primarily using the Leadership Scale for Sport (Chelladurai & Saleh, 1980). The Leadership Scale for Sport is comprised of five dimensions of leadership behaviors: Training and Instruction, Democratic Behavior, Autocratic Behavior, Positive Feedback, and Social Support. In general, research using the LSS has shown that its dimensions are related to performance (Chelladurai & Carron, 1978), athlete satisfaction (Chelladurai & Riemer, 1997), sport commitment (Andrew & Kent, 2007), athlete motivation (Andrew & Kent, 2007), and cohesion (Paskevich et al., 2001). In regards to the relationship between the dimensions of the Leadership Scale for Sport and cohesion, research has, generally shown a positive relationship. For example, Westre and Weiss (1991) examined the relationship between coaching behaviors and cohesion in high school football teams and found the coaching behaviors of Social Support, Training and Instruction, Positive Feedback, and Democratic Behavior were positively related to the cohesion dimensions of Individual Attractions to the Group - Task and Group Integration - Task. In another study Shields, Gardner, Bredemeier, and Bostrom (1997), examined the relationship between leadership behaviors and cohesion in

baseball and softball players from high school and varsity levels. They found that Training and Instruction, Democratic Behavior, Positive Feedback and Social Support were positively related to task cohesion. It should be noted that, for this study, the dimensions of cohesion were collapsed to two dimensions, task and social, because the internal consistencies for two of the dimensions of cohesion (i.e., Group Integration - Social & Individual Attractions to the Group - Social) had Cronbach alpha levels lower than .70. Finally, Jowett and Chaundy (2004) examined the relationship between the athletes' perception of their relationship with their coach and team cohesion, using athletes from a variety of interdependent team sports. Similar to previous studies, the results showed that Training and Instruction, Democratic Behavior, Positive Feedback and Social Support were positively related to task cohesion. In addition, these same coaching behaviors were shown to positively influence social cohesion. Once again it should be noted that Jowett and Chaundy also collapsed the dimensions of cohesion into task and social due to low levels of internal consistency values. As Carron, Brawley, and Widmeyer (2002) noted, the issue of collapsing the four dimensions of cohesion should be done with caution since the dimensions are conceptually different.

It is not surprising that the majority of research has examined the behaviors of the coach, who is typically the one responsible for making final decisions with respect to several team matters, such as strategy, tactics, and team personnel (Loughead, Hardy, & Eys, 2006). Nonetheless, athletes are also an important source of leadership within teams. In fact, researchers (Glenn & Horn, 1993; Yukelson, 1997) have highlighted the importance of athlete leadership. Therefore, a complete understanding of leadership in sport must also include the athlete. In an attempt to encourage research in this area, Loughead et al. (2006) defined athlete leadership as "an athlete occupying a formal or

informal role within a team, who influences team members to achieve a common goal" (p. 144).

To date, research on athlete leadership has compared the behaviors of coach and athlete leaders (e.g., Training and Instruction), the number of athlete leaders on a team, and the functions (e.g., task functions) and characteristics of athlete leaders (e.g., formal leaders). Loughead and Hardy (2005) compared the leader behaviors exhibited by coaches and athlete leaders as perceived by a sample of 238 (94 females and 144 males) varsity athletes recruited from a variety of interdependent sports, such as ice hockey, soccer, and basketball. The participants evaluated the behaviors of their coaches and athlete leaders using the Leadership Scale for Sport. The results indicated that athletes perceived coaches to demonstrate different leadership behaviors than the athlete leaders. Specifically, athletes perceived that coaches exhibited more Training and Instruction and Autocratic Behavior than athlete leaders. Conversely, athletes perceived that athlete leaders exhibited greater amounts of Social Support, Positive Feedback, and Democratic Behaviors. These results were important because they provided initial empirical evidence that coaches and athletes fulfilled different leadership roles for their teams.

In addition to comparing coach and athlete leader behaviors, Loughead and Hardy (2005) sought to determine the number of athlete leaders present on sport teams. Glenn and Horn (1993) suggested that teams needed one or two athletes on their team to motivate and direct their teammates. However, Loughead and Hardy demonstrated that approximately 27% of athletes were viewed as providing leadership. This result provides some evidence that athlete leadership was more widespread than initially thought, suggesting that leadership within a team is more than a few athletes assuming a leadership role.

With respect to the functions and characteristics of athlete leaders, Loughead et al. (2006) conducted a study on 258, male and female, varsity student athletes from a variety of interdependent team sports, such as volleyball, field hockey, and rugby. They found that athlete leaders were involved in: (a) task related functions that assisted the team in achieving their goals and objectives, (b) social related functions that helped satisfy individual member psycho-social needs, and (c) external related functions that involved representing the team at meetings and media gatherings. In addition, Loughead et al. (2006) found that athlete leaders typically: (a) occupied either a formal (captain or assistant captain) or informal leadership (athletes other than team captains who become leaders based on their interactions with other team members) role on their team, (b) were veteran members of their respective teams, and (c) had higher athletic ability than most team members.

Given that Loughead et al. (2006) found that some athlete leaders occupy a formal leadership role within a team, Dupuis, Bloom, and Loughead (2006) conducted a study where they interviewed six former varsity male ice hockey captains to identify some of their functions and characteristics of leadership. The results revealed that formal leaders took a lot of pride in being a team captain. The participants stressed the importance of representing the team at various functions (e.g., fundraising events), conducting team meetings, and serving as a liaison between the coaching staff and the players. In addition, the participants highlighted some of the qualities of a team captain. For example, they noted that being an effective communicator by being honest, respectful, and having a positive attitude was essential to fulfill their role as a captain. They also mentioned that it was critical for a team captain to provide positive feedback to their teammates and lead the team by example (e.g., hard work in practice, train in the off-season).

Eys, Loughead, and Hardy (2007) examined the relationship between the number of athlete leaders over three leadership functions (task, social and external) and teammate satisfaction on a sample of 218 male and female intercollegiate athletes from a variety of interdependent team sports, such as lacrosse, basketball, and hockey. The results suggested that athletes who perceived an equal amount of leaders across the three leadership functions had a higher level of satisfaction than those who perceived an unequal number of athlete leaders.

Although previous research has examined the functions and characteristics of athlete leaders, the number of athlete leaders on a team, compared coach and athlete leader behaviors, and the relationship between athlete leadership and satisfaction, this body of literature does have its shortcomings. First, the majority of the athlete leadership research has focused on the characteristics and the number of athlete leaders (Dupuis et al., 2006; Eys, Loughead et al., 2007; Loughead et al., 2006). However, it is equally important to gain a better understanding of the leadership behaviors of these athletes to determine which of these behaviors are most effective and influence other variables such as cohesion (Horn, 1992). Second, while leadership is an antecedent in Carron's (1982) conceptual model, the influence of athlete leadership on cohesion have not been studied concurrently. To date, only the coach leadership-cohesion relationship has been examined (Jowett & Chaundy, 2004; Shields et al., 1997, Westre & Weiss, 1991). However, a limitation to this body of knowledge is that researchers have collapsed the four dimensions of cohesion into two dimensions (Jowett & Chaundy, 2004; Shields et al., 1997), that is combining the dimensions of Individual Attractions to the Group - Task and Group Integration - Task into a general task cohesion dimension and combining Individual Attractions to the Group - Social and Group Integration - Social into a general

social cohesion dimension. Consequently, it is unknown which specific dimensions of cohesion influence leadership. Although, Carron, Brawley et al. (2002) noted that there is a moderate relationship amongst the four dimensions of cohesion; the variance explained by each specific dimension is high, indicating that these dimensions are conceptually different from one another. Therefore, Carron Brawley et al. recommended that researchers do not collapse the dimensions to calculate a global or overall score of cohesion.

The significance of the current study was to show the importance of athlete leadership by indicating which athlete leader behaviors are related to specific dimension of cohesion. This type of knowledge would allow coaches and sport psychology consultants to develop and foster appropriate athlete leader behaviors to enhance team cohesion. Furthermore, this research would potentially add another construct, athlete leadership behaviors, to Carron's (1982) conceptual model which has previously been limited to leadership demonstrated by the coach.

The purpose of this study was to examine the influence of athlete leadership behaviors on team cohesion. Given that previous research has either collapsed (Jowett & Chaundy, 2004; Shields et al., 1997) or removed dimensions of cohesion based on low internal consistency values, it was difficult to advance specific a priori hypotheses. Nonetheless, it was hypothesized that the leadership behaviors of Training and Instruction, Democratic Behavior, Social Support, and Positive Feedback will be positively related to task (Individual Attractions to the Group - Task & Group Integration - Task) and social (Individual Attractions to the Group - Social & Group Integration - Social) dimensions of cohesion and Autocratic Behavior would have a negative

relationship. However, given the lack of research examining specific dimensions of cohesion, no specific a priori predictions were made.

## Method

### *Participants*

The participants were 310 athletes (129 females and 178 males) from 25 interdependent sport teams from the province of Ontario (see Appendix D). The mean age of the participants was 19.21 ($SD$ = 2.59), and they had an average of 2.20 ($SD$ = 1.65) years of experience with their current team. They represented both varsity and club level teams, and had been involved in their current sport for an average of 11.24 years ($SD$ = 4.30). Finally, the athletes represented a variety of interdependent sport teams. Specifically, there were eight ice hockey teams ($n$ = 130 players), two indoor soccer teams ($n$ = 21 players), eleven volleyball teams ($n$ = 115 players), four basketball teams ($n$ = 41 players).

### *Measures*

*Cohesion.* Cohesion was assessed using the Group Environment Questionnaire (Carron et al., 1985, see Appendix E). The Group Environment Questionnaire is an 18-item inventory that measures four dimensions of cohesion (Individual Attractions to the Group - Task, Group Integration - Task, Individual Attractions to the Group - Social, and Group Integration - Social). The Individual Attractions to the Group - Task dimension contains four items and examines the individual team member's feelings about his/her personal involvement with the group's task, goals and productivity. An example item is: "I'm happy with how much my team wants to win". The Individual Attractions to the Group - Social dimension consists of five items and assesses an individual's feeling about

his/her acceptance and social interaction with the group. An example of this is: "Some of my best friends are on this team". The Group Integration - Task dimension is comprised of five items and assesses team member's feelings about the similarity and closeness within the team as a whole around the group's task. An example is: "Our teammates have different goals for how we want the team to play". Finally, the Group Integration - Social dimension consists of four items and examines team member's feelings about the similarity and closeness of the group in regards to their social matters. An example item is: "Our team would like to spend time together in the off season". All items are scored on a 9 point Likert scale anchored at 1 (*strongly disagree*) and 9 (*strongly agree*). Twelve of the 18 items were negatively worded, and thus were reversed prior to data analysis. Research using the Group Environment Questionnaire has shown acceptable internal consistency values (Patterson, Carron, & Loughead, 2005), as well as demonstrated face (Carron et al., 1985), concurrent (Paskevich et al., 2001), predictive (Paskevich et al., 2001), and factorial validity (Carron et al., 1985; Paskevich et al., 2001). Cronbach alpha values were calculated for each of the four dimensions of cohesion in the present study. The values were: Individual Attractions to the Group - Task, $\alpha = .65$; Individual Attractions to the Group - Social, $\alpha = .60$; Group Integration - Task, $\alpha = .71$; and Group Integration - Social, $\alpha = .72$. Due to the two Individual Attractions to the Group dimension's internal consistency values being low, the results from these subscales should be interpreted with caution (Carron, Brawley, et al., 2002).

*Athlete leader behaviors*. The behaviors of athlete leaders were measured using a modified version of the Leadership Scale for Sport (Loughead & Hardy, 2005, see Appendix F). This modified version of the Leadership Scale for Ssport assesses the same

five dimensions as the original version (Chelladurai & Saleh, 1980): Training and Instruction, Positive Feedback, Social Support, Democratic Behavior, and Autocratic Behavior. The only modification that was made concerns the stem which precedes the items. In the original, version the stem reads "My coach" whereas in the athlete leader version the stem reads "The athlete leader(s) on my team". The Training and Instruction dimension consists of 13 items and examines the leader's behavior aimed at improving the athlete's performance by facilitating strenuous training. An example item is: "Sees to it that every team member is working to his/her capacity". The Positive Feedback dimension consists of five items and assesses the leader's tendency to reinforce a team member's behavior. An example is: "Compliments a team member for his/her performance in front of others". Next, the Social Support dimension is comprised of eight items and it examines the leader's concern for his/her teammates' welfare. An example item is: "Helps team members with their personal problems". The Democratic Behavior dimension consists of nine items and assesses the extent to which the leader involves their teammates in the decision making. An example item is: "Lets team members decide on the plays to be used in a game". Finally, the Autocratic Behavior dimension consists of five items and assesses behavior that involves the athlete leader's independence in decision-making. An example item is: "Refuses to compromise a point". Answers are provided on a five-point Likert scale anchored at 1 (*never*) to 5 (*always*). Thus, higher scores reflect stronger perceptions of athlete leader behavior. Each dimension of the modified version of the Leadership Scale for Sport demonstrated acceptable internal consistencies with values greater than .70 (Nunnally, 1978). More specifically, internal consistency values were computed for each of the five dimensions of athlete leadership

behavior: Training and Instruction, $\alpha$ = .88; Positive Feedback, $\alpha$ = .84; Social Support, $\alpha$ = .86; Democratic Behavior, $\alpha$ = .79, and Autocratic Behavior, $\alpha$ = .74.

*Procedures*

After receiving ethics approval from the University of Windsor's Research Ethics Board, the coaches of the varsity and club teams were contacted via telephone to outline the study and request permission to administer the surveys to the athletes on their teams. Once the approval from the coaches was obtained, the researcher met with the athletes and they were given a full description of the study. All athletes received a letter of information for their records and informed consent was implied by the completion and return of the questionnaires to the researcher (see Appendix G). Following this, the athletes completed the Group Environment Questionnaire (Carron et al., 1985), and the modified version of the Leadership Scale for Sport (Loughead & Hardy, 2005) in the team's locker or meeting room following a practice session. The athletes completed the questionnaires near the end of the regular season. The administration of the questionnaires near the end of the season allowed for the emergence of athlete leaders and perceptions of team cohesion to develop.

*Data Analysis*

The design of the study was a non-experimental, cross sectional design. An issue that arises in research examining groups pertains to the unit of analysis. That is, whether the individual group member (e.g., athlete) and/or the intact group (e.g., team) be used as the unit of analysis. More specifically in regard to the present study, there was a need to examine whether athlete leadership behaviors be modeled at the individual and/or the group level. Two estimates were calculated to determine whether the analyses should

proceed at the individual or team level, intra-class correlation (ICC) and the within group interrater reliability index ($r_{wg(j)}$).

According to Bliese, Halverson, and Schriesheim (2002), the ICC estimate corresponds to the amount of variance in individual level responses that can be explained by group level membership. In addition, Bliese (2000) noted that this estimate is also viewed as a measure of nonindependence. ICC is calculated as follows:

$$ICC = (m_{sb} - m_{sw}) / [m_{sb} + ((n_g - 1)\, m_{sw})]$$

where $m_{sb}$ is the between-group mean square, $m_{sw}$ is the within-group mean square, and $n_g$ is the group size.

The index of agreement ($r_{wg(j)}$) represents the amount of interrater agreement, and is typically used to determine the appropriateness of aggregating the data to higher levels of analysis (James, Demaree, & Wolf, 1984). Unlike ICC, the $r_{wg(j)}$ index is calculated separately for each team and is calculated as follows:

$$r_{wg(j)} = \frac{J\,[\,1 - (s^2_j / \sigma^2_E)]}{J\,[1 - (sx^2_j / \sigma^2_E)] + (sx^2_j / \sigma^2_E)}$$

where $r_{wg(j)}$ is the within-group interrater reliability based on $J$ items, $sx^2_j$ is the mean of the observed variances on $J$ items, and $\sigma^2_E$ is the expected variances (James et al.).

It was shown that team affiliation was a significant predictor of the five dimensions of athlete leadership behaviors as indicated by significant $F$ ratios. The ICC values ranged from .07 to .14. Specifically, the values for each dimension of athlete leadership behavior were .08 for Training and Instruction, .08 for Democratic Behavior, .14 for Autocratic Behavior, .09 for Social Support, and .07 for Positive Feedback.

As for the $r_{wg(j)}$ index, the values ranged from .86 to .96 (Training and Instruction, .96; Democratic Behavior, .92; Autocratic Behavior, .86; Social Support, .92; and Positive Feedback, 93), suggesting high agreement and that these teams should have their individual level scores aggregated. Some researchers (e.g., Bliese et al., 2002; George, 1990) have suggested a cut-off value between .60 to .70, noting that this type of criterion level is commonly used for other estimates such as Cronbach's alpha (Nunnally, 1978). Given that there was support for aggregation from both the ICC and $r_{wg(j)}$ index, athlete leadership behaviors were modeled at both the individual and group level.

## Results

### *Descriptive Statistics*

Means and standard deviations were calculated for the four dimensions of cohesion and the five dimensions of athlete leader behaviors. In terms of cohesion, Individual Attractions to the Group - Social was rated the highest ($M$ = 7.48 on the 9-point scale, $SD$ = 1.05), followed by Individual Attractions to the Group - Task ($M$ = 7.08, $SD$ = 1.44), Group Integration - Task ($M$ = 6.78, $SD$ = 1.30), and Group Integration - Social ($M$ = 6.35, $SD$ = 1.66). Insofar as athlete leader behaviors are concerned, Positive Feedback was rated the highest ($M$ = 4.25 on the 5-point scale, $SD$ = .59), followed by Social Support ($M$ = 3.90, $SD$ = .67), Training and Instruction ($M$ = 3.62, $SD$ = .56), Democratic Behavior ($M$ = 3.62, $SD$ = .58), and finally, Autocratic Behavior ($M$ = 2.50, $SD$ = .74) (See Table 1).

A summary of the bivariate correlations among the variables can be found in Table 2, which demonstrates that there were significant relationships amongst all of the variables, except between the athlete leader behavior of Training and Instruction, and Autocratic Behavior. In particular, it was shown the cohesion dimensions of Individual

Attractions to the Group - Task, Individual Attractions to the Group - Social, Group Integration - Task and Group Integration - Task were positively associated with the athlete leader behaviors of Training and Instruction, Democratic Behavior, Social Support and Positive Feedback. Furthermore, the four dimensions of cohesion were negatively related to the athlete leader behavior of Autocratic Behavior. Although almost all of the variables were significantly related to one another, none of these relationships demonstrated evidence of multicollinearity with correlation values lower than .90 (Tabachnick & Fidell, 2001).

*Main Analysis*

Multivariate multilevel regression was used to determine if athlete leadership behaviors (modeled at both the individual and group level) influenced athletes' perceptions of cohesion. Prior to running the multivariate multilevel regressions, the data were cleaned and screened for missing data, by running frequencies for the missing value of 999. Once these values were identified they were replaced with the series mean from the data set. In addition, the data were examined for outliers using a scatterplot of standardized residuals against fitted values. Furthermore, two of the most important assumptions for multilevel modeling were conducted (Luke, 2004). The first assumption was that the level-1 (within-group) errors were independent and normally distributed. The second assumption was that the random effects were normally distributed with a mean of zero, and were independent across groups. The assumption of normality and linearity was satisfied by inspecting the residuals, for each of the independent and dependent variables.

Given that there are four dimensions of cohesion, a separate model for each dimension was created whereby the level-1 parameters (β coefficients) were able to randomly vary between teams. The individual model was as follows:

$$\text{Cohesion} = \beta_{0j} + \beta_{1j}(\text{Training and Instruction})_{ij} + \beta_{2j}(\text{Democratic Behavior})_{ij} + \beta_{3j}(\text{Autocratic Behavior})_{ij} + \beta_{4j}(\text{Social Support})_{ij} + \beta_{5j}(\text{Positive Feedback})_{ij} + e_{ij}$$

$\beta_{0j}$ refers to the average cohesion for team j; $\beta_{1j}$ refers to the relationship between Training and Instruction and perceptions of cohesion; $\beta_{2j}$ represents the relationship between Democratic Behavior and perceptions of cohesion; $\beta_{3j}$ represents the relationship between Autocratic Behavior and perceptions of cohesion; $\beta_{4j}$ refers to the relationship between Social Support and perceptions of cohesion; $\beta_{5j}$ represents the relationship between Positive Feedback and perceptions of cohesion; and finally $e_{ij}$ represents the residual.

Following this, the individual level parameters, become the dependent variables for the group level model. Therefore, the group level model was as follows:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Training \& Instruction team})_j + \gamma_{02}(\text{Democratic Behavior team})_j + \gamma_{03}(\text{Autocratic Behavior team})_j + \gamma_{04}(\text{Social Support team})_j + \gamma_{05}(\text{Positive Feedback team})_j + u_{ij}$$

$\beta_{0j}$ refers to the average perception of cohesion for team j; $\gamma_{00}$ refers to the intercept for the group level model; $\gamma_{01}$ represents the relationship between the athlete leadership behavior of Training and Instruction and perceptions of cohesion for all teams j; $\gamma_{02}$ represents the relationship between the athlete leadership behavior of Democratic Behavior and perceptions of cohesion for teams j; $\gamma_{03}$ refers to the relationship between the athlete leadership behavior of Autocratic Behavior and the perceptions of cohesion for

teams j; $\gamma_{04}$ refers to the relationship between the athlete leadership behavior of Social Support and the perceptions of cohesion for teams j; $\gamma_{05}$ represents the relationship between the athlete leadership behavior of Positive Feedback and the perceptions of cohesion for teams j, and finally $u_{ij}$ is the random effect.

Table 3 shows the results of the multilevel model for the cohesion dimension of Individual Attractions to the Group – Task. It was found that individual perceptions of Training and Instruction, Democratic Behavior, and Social Support positively influenced perceptions of Individual Attractions to the Group – Task ($\beta_{1j} = .57, p < .01$; $\beta_{2j} = .36, p < .05$; $\beta_{4j} = .44, p < .01$, respectively). In contrast, the athlete leadership behavior of Autocratic Behavior was shown to negatively influence this dimension of cohesion ($\beta_{3j} = -.29, p < .05$). It should be noted that none of the team level athlete leader behaviors were significantly related to Individual Attractions to the Group – Task.

Table 4 shows the results of the multilevel model for the cohesion dimension of Individual Attractions to the Group – Social . It was found that individual perceptions of Training and Instruction, and Social Support positively influenced perceptions of Individual Attractions to the Group – Social ($\beta_{1j} = .40, p < .01$; $\beta_{4j} = .31, p < .05$, respectively). In contrast, the athlete leader behavior of Autocratic Behavior was shown to negatively influence this dimension of cohesion ($\beta_{3j} = -.25, p < .001$). None of the team level athlete leader behaviors were significantly related to Individual Attractions to the Group – Social.

Table 5 shows the results of the multilevel model for the cohesion dimension of Group Integration – Task. It was found that individual perceptions of Training and Instruction, and Social Support ($\beta_{1j} = .77, p < .001$; $\beta_{4j} = .27, p < .05$, respectively)

positively influenced Group Integration – Task. Autocratic Behavior ($\beta_{3j} = -.35, p < .001$) was found to negatively influence Group Integration – Task. None of the team level athlete leader behaviors were significantly related to Group Integration – Task.

Table 6 shows the results of the multilevel model of the cohesion dimension of Group Integration – Social. The results showed that individual perceptions of Training and Instruction, and Social Support ($\beta_{1j} = .52, p < .01$; $\beta_{4j} = .54, p < .01$, respectively) positively influenced this dimension of cohesion. Autocratic Behavior ($\beta_{3j} = -.42, p < .001$) was found to have a negative impact on Group Integration – Social. None of the team level athlete leader behaviors were significantly related to Group Integration – Social.

## Discussion

The purpose of the current study was to examine the influence of athlete leader behaviors on perceptions of cohesion. A series of multivariate multilevel regressions were estimated to test the relationship between athlete leader behaviors and cohesion. On the one hand, it was hypothesized that the athlete leader behaviors of Training and Instruction, Democratic Behavior, Social Support, and Positive Feedback would be positively related to task (Individual Attractions to the Group - Task & Group Integration - Task) and social (Individual Attractions to the Group - Social & Group Integration - Social) dimensions of cohesion. On the other hand, it was predicted that the athlete leader behavior of Autocratic Behavior would be negatively related to both task and social cohesion. In general, the results supported these hypotheses that specific behaviors of an athlete leader contribute to specific perceptions of cohesion in sport. Specifically, it was found that individual perceptions of Training and Instruction, Democratic Behavior, and

Social Support were positively related to the cohesion dimension of Individual Attractions to the Group - Task. Furthermore, individual perceptions of Training and Instruction, and Social Support were found to have a positive relationship to the other three dimensions of cohesion, Individual Attractions to the Group - Social, Group Integration – Task, and Group Integration - Social. Finally, Autocratic Behavior had a negative relationship with all four dimensions of cohesion. Contrary to the hypothesis, Positive Feedback and Democratic Behavior were not significantly related to perceptions of cohesion. Beyond these specific findings, a number of aspects associated with the results should be highlighted.

One of those pertains to the positive relationship between athlete leader behaviors and cohesion. Generally, the results suggested that team members enjoyed athlete leaders who demonstrated leadership behaviors towards improving performance through rigorous training and instruction, and showed an increased amount of concern for the team member's welfare. In doing so, athletes perceived a higher sense involvement in the productivity of team goals, of personal acceptance and social interactions within their team, similarity, closeness, and unity within the group around the team's task objectives, and to their team as a social unit (Carron, 1982; Chelladurai & Saleh, 1980).

A second point pertains to the negative relationship between the athlete leader behavior of Autocratic Behavior and all four dimensions of cohesion. Previous coaching leadership research has shown that Autocratic Behavior is negatively related to Individual Attractions to the Group – Task, Individual Attractions to the Group – Social, Group Integration – Task, and Group Integration – Social (Jowett & Chaundy, 2004; Shields et al., 1995; Westre & Weiss, 1991). Therefore, the athletes' perception of their team's productivity towards their goals and their personal acceptance within the team is lower

when they feel their athlete leaders take a more authoritative role in the decision making process for their team.

A third and related point is the finding that the athlete leader behaviors of Positive Feedback and Democratic Behavior (except for Individual Attractions to the Group - Task) were not related to perceptions of cohesion. Previous coach leadership research has shown that Positive Feedback and Democratic Behavior are related to cohesion (Jowett & Chaundy, 2004; Shields et al., 1995; Westre & Weiss, 1991). It would appear that positive reinforcement originating from the athlete leaders has less of an impact on team members than when coming directly from the coaching staff. It is possible that the team members experience a higher frequency of Positive Feedback from their athlete leaders on a regular basis. Therefore, the importance and meaning of the feedback originating from their athlete leaders would have less of an impact than when their coaches gave them some type of positive encouragement. As for Democratic Behavior, the results of the present study may be explained by the findings from Loughead and Hardy (2005) who indicated that there are multiple athlete leaders providing leadership to team members. It may be plausible that with a large number of athlete leaders, it becomes difficult for the team as a whole to reach a consensus on a decision. Consequently, the process of decision making could become disorganized and unproductive with higher levels of democratic behavior. Thus, it may be beneficial for the coaching staff to incorporate democratic behavior within their own leadership roles instead of having the athlete leaders make a decision amongst themselves. In fact, previous research has suggested that athletes prefer coaches to incorporate democratic behavior when making decisions that have a minor effect on team performance (Chelladurai, 1993).

Team level perceptions of the five athlete leader behaviors were not significantly related to the four dimensions of cohesion. This could be due to the fact that the individual- and team-level athlete leader behaviors represent two different conceptual constructs. Bliese (2000) noted that this type of relationship is known as the fuzzy composition model. This conceptualization suggests that the aggregate, in this case, team-level athlete leader behaviors, often represent a similar but different construct than the individual-level construct (i.e., individual-level athlete leader behaviors). Thus in the present study, the aggregate might tap into the athlete leader behaviors of the team as a whole, whereas the individual perceptions may represent perceptions of the behaviors as perceived by the individual team member. Consequently, the absence of a relationship between team-level athlete leader behaviors and cohesion may call into question the validity of the hypothesized team-level construct (Chan, 1998).

The results of the current study were somewhat consistent with previous coaching leadership research. Similar to the current study, Westre and Weiss (1991) found Training and Instruction, and Social Support positively influenced Individual Attractions to the Group - Task and Group Integration – Task, while Autocratic Behavior negatively influenced task cohesion. In contrast, they showed that Democratic Behavior and Positive Feedback positively influenced task cohesion. Also in convergence with the present study, Shields et al. (1995) found Training and Instruction, and Social Support positively influenced task cohesion (Individual Attractions to the Group - Task, Group Integration - Task), while Autocratic Behavior negatively influenced task and social cohesion. Finally, the current study was similar to Jowett and Chaundy (2004), in that Training and Instruction and Social Support were found to positively influence task and social cohesion, whereas Autocratic Behavior was negatively related to both task and social

cohesion. In contrast to the results of the present study, Jowett and Chaundy found Democratic Behavior and Positive Feedback to be positively related to both task and social cohesion. It should be noted that in two of the three studies examining the coach leadership-cohesion relationship (i.e., Jowett and Chaundy, 2004; Sheilds et al., 1995), the task and social dimensions of cohesion were collapsed. However, as previously noted, cohesion is more appropriately conceptualized as being four distinct dimensions (Carron et al., 2002) as operationalized in the present study.

The results of the present study extend the athlete leadership literature. First, the majority of the previous athlete leadership research has focused on the characteristics and number of athlete leaders on a team (Dupuis et al., 2006; Eys, Loughead et al., 2007; Loughead et al., 2006). The present study assessed the behaviors of athlete leaders and how each of these behaviors influenced perceptions of cohesion. In knowing which specific athlete leader behaviors influence cohesion, this allows coaches and sport psychology consultants to develop leadership behaviors that will foster higher levels of cohesion. Second, given that there was a relationship between athlete leader behaviors and cohesion, the present study provides additional support that leadership is an important antecedent in Carron's (1982) conceptual model of cohesion. As noted earlier, previous coach leadership research has shown that coaching behaviors influence an athlete's perception of cohesion. The present study expands the leadership antecedent by providing initial evidence that athlete leader behaviors are important in terms of influencing cohesion. Third, the results of the present study would tend to suggest that participants viewed four of the five athlete leader behaviors as important. For instance, Positive Feedback, Social Support, Training and Instruction, and Democratic Behavior were rated as 3.62 or above on the 5-point scale.

From a practical perspective sport psychology consultants would use the findings from the current study to educate coaches about the emergence of athlete leadership and assist them in determining which leadership behaviors should be fostered in order to enhance cohesion on their teams. In turn, coaches could then use team building interventions that focus on both athlete leadership development and the enhancement of cohesion.

Although the study makes a contribution to the athlete leadership research, a few limitations should be addressed. It is important to note that the Individual Attractions to the Group – Task and Individual Attractions to the Group – Social subscales were plagued with lower than ideal internal consistency values. This was not surprising considering that cohesion is a multidimensional construct and all dimensions of cohesion may not be equally present across all teams at the same time (Carron, Brawley et al., 2002). There may be two explanations for these lower internal consistency values. On the one hand, from a group development perspective, Estabrooks (2000) suggested exercisers who have been involved with their group for some time would perceive the cohesion dimensions of Group Integration (task and social) to be the most important dimensions of cohesion. However, this suggestion has not been examined in sport. Nonetheless, the results of the present study tend to support this notion since the data was collected late in the season when athletes had sufficient information concerning perceptions of group integration. On the other hand, Eys, Carron, Bray, and Brawley (2007) have suggested that the use of both positively and negatively worded items contained in the Group Environment Questionnaire could be a major contributor to low internal consistency scores. In their study, Eys, Carron et al. compared the original version of the Group Environment Questionnaire and a modified version containing all positively worded

items. It was found that the positively worded items had higher alpha levels than the original Group Environment Questionnaire containing both negatively and positively worded items.

Another limitation concerns the measurement tool used to assess athlete leader behaviors. The Leadership Scale for Sport (Chelladurai & Saleh, 1980) was originally developed to assess the perceptions of coaches' leadership behaviors. It is possible that some of the items would be more difficult for athletes to answer in relation to their athlete leaders' behaviors. Given athlete leadership research is in its infancy, this measurement tool is adequate, however, it would be beneficial to have a scale specific to athlete leaders and their leadership behaviors.

A third limitation involves the correlational design used for the present study. Although a correlational design shows that a relationship exists between two concepts, this type of design does not allow researchers to infer cause and effect. Therefore, it is unknown as to whether the relationship is directional or cyclical in nature.

Finally, a fourth limitation surrounds the concept of response bias. Unlike the Group Environment Questionnaire, the Leadership Scale for Sport contains all positive items. The high internal consistency values for the Leadership Scale for Sport subscales for the present study may have shown a degree of response bias. Block (1965) referred to this as "agreement tendency, where the participant has a tendency to agree or say yes to inventory statements, regardless to the content statements" (p. 1). Future research could examine whether response bias is present in the Leadership Scale for Sport.

Although the results of the present study are encouraging regarding the relationship between athlete leadership behaviors and cohesion, there are a number of possible avenues for future research. Future research could examine whether cohesion

mediates the relationship between athlete leader behaviors and outcomes such as team performance or athlete satisfaction. Carron's (1982) conceptual model is mediational in nature and research testing this assumption has been sparse. The majority of research examining cohesion has tested direct relationships, such as the leadership-cohesion relationship. Recently, Loughead and colleagues (e.g., Loughead & Carron, 2004; Loughead, Colman, & Carron, 2001; Loughead, Patterson, & Carron, 2008) have conducted several studies to determine whether cohesion acted as a mediator between the fitness leader behaviors and several exercise outcomes. Taken together, the results from these studies indicated that task cohesion, in most cases Individual Attractions to the Group - Task, served to mediate the relationship between fitness leader behaviors and four exercise-related outcomes: exerciser satisfaction, attendance, affect, and perceived exertion.

While the emerging body of athlete leadership literature has provided a platform from which to further explore team leadership in the sports domain, it is recommended that future research examine athlete leader behaviors. Chelladurai's (1993) Multidimensional Model of Leadership may be a potentially useful framework for better understanding how the various types of athlete leader behaviors influence or are influenced by various constructs. In this model, it is hypothesized that situational characteristics, such as the task type, social norms, and goals influence the leader's behavior. It is also hypothesized that leader characteristics, such as gender, maturity and experience influences leader behavior. Next, it is hypothesized that member characteristics, for example competence in the task, need for achievement and the need for affiliation influence a leader's behavior. Finally, it is hypothesized that leader behavior will influence the team's performance and the athlete's satisfaction. It has been

shown in previous coach leadership research that gender, personality, age, maturity, and experience were related to leader behaviors (Chelladurai & Carron 1981; Riemer & Toon, 2001). Additionally, situational characteristics, such as organizational goals were found to influence leader behavior (Erle, 1981; Chelladurai, 1978). Finally, it has been shown that leader behaviors influence both team performance and athlete satisfaction (Chelladurai, 1978; Reimer & Toon, 2001). Although the Multidimensional Model of Leadership has been used extensively to examine coach leadership, it has yet to be applied to the study of athlete leadership.

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Table 1

*Descriptive statistics of the dimensions of cohesion and leadership*

| | *M* | *SD* |
|---|---|---|
| ATGT | 7.08 | 1.44 |
| ATGS | 7.48 | 1.05 |
| GIT | 6.73 | 1.30 |
| GIS | 6.35 | 1.66 |
| TI | 3.62 | 0.56 |
| DB | 3.62 | 0.58 |
| AB | 2.50 | 0.74 |
| SS | 3.90 | 0.67 |
| PF | 4.25 | 0.59 |

*Note.* Cohesion dimensions; ATGT = Individual Attractions to the Group – Task, ATGS = Individual Attractions to the Group – Social, GIT = Group Integration – Task, GIS = Group Integration – Social, Leadership dimension; TI = Training and Instruction, DB = Democratic Behavior, AB = Autocratic Behavior, SS = Social Support, PF = Positive Feedback.

Table 2

*Bivariate correlations among of cohesion and athlete leader behaviors*

| | ATGT | ATGS | GIT | GIS | TI | DB | AB | SS | PF |
|---|---|---|---|---|---|---|---|---|---|
| ATGT | - | .30* | .57* | .28* | .32* | .28* | -.13* | .34* | .26* |
| ATGS | | - | .44* | .52* | .34* | .19* | -.17* | .38* | .24* |
| GIT | | | - | .57* | .51* | .44* | -.29* | .52* | .46* |
| GIS | | | | - | .39* | .28* | -.29* | .49* | .35* |
| TI | | | | | - | .53* | -.01 | .53* | .42* |
| DB | | | | | | - | -.19* | .54* | .50* |
| AB | | | | | | | - | -.26* | -.32* |
| SS | | | | | | | | - | .67* |
| PF | | | | | | | | | - |

*Note.* ATGT = Individual Attractions to the Group – Task, ATGS = Individual Attractions to the Group – Social, GIT = Group Integration – Task, GIS = Group Integration- Social. TI = Training and Instruction, DB = Democratic Behavior, AB = Autocratic Behavior, SS = Social Support, PF = Positive Feedback.

*$p < .01$.

Table 3

*Perceptions of athlete leadership behaviors on individual attractions to the group – task*

| ATGT | Fixed Effect | Parameter | Coefficients | *SE* | T-ratio | |
|---|---|---|---|---|---|---|
| | Intercept | $\beta_{0j}$ | 7.11 | .11 | 67.45*** | |
| | TIteam | $\gamma_{01}$ | - .06 | .49 | -.13 | |
| | DBteam | $\gamma_{02}$ | .48 | .34 | 1.44 | |
| | ABteam | $\gamma_{03}$ | - .48 | .40 | -1.20 | |
| | SSteam | $\gamma_{04}$ | - .18 | .50 | -.36 | |
| | PFteam | $\gamma_{05}$ | -1.30 | .93 | -1.40 | |
| | TI | $\beta_{0j}$ | .57 | .18 | 3.13** | |
| | DB | $\beta_{0j}$ | .36 | .15 | 2.46* | |
| | AB | $\beta_{0j}$ | - .29 | .12 | -2.49* | |
| | SS | $\beta_{0j}$ | .44 | .14 | 3.10** | |
| | PF | $\beta_{0j}$ | - .15 | .16 | -.92 | |
| | Random Effect | Parameter | Variance component | *df* | $\chi^2$ | Reliability |
| | ATGT | $\sigma^2_{u0}$ | .25 | 20 | 60.37*** | .65 |
| | Residual | $\sigma^2_e$ | 1.5 | | | |

*Note.* ATGT = Individual Attractions to the Group – Task. TIteam = team perceptions of Training and Instruction, DBteam = team perceptions of Democratic Behavior, ABteam = team perceptions of Autocratic Behavior, SSteam = team perceptions of Social Support, PFteam = team perceptions of Positive Feedback. TI = individual perceptions of Training

and Instruction, DB = individual perceptions of Democratic Behavior, AB = individual perceptions of Autocratic Behavior, SS = individual perceptions of Social Support, PF = individual perceptions of Positive Feedback.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

*Perceptions of athlete leadership behaviors on individual attractions to the group – social*

| ATGS | Fixed Effect | Parameter | Coefficients | *SE* | T-ratio | |
|---|---|---|---|---|---|---|
| | Intercept | $\beta_{0j}$ | 7.41 | .09 | 84.19*** | |
| | TIteam | $\gamma_{01}$ | -.26 | .38 | -.67 | |
| | DBteam | $\gamma_{02}$ | -.22 | .41 | -.53 | |
| | ABteam | $\gamma_{03}$ | -.62 | .34 | -1.79 | |
| | SSteam | $\gamma_{04}$ | .83 | .62 | 1.34 | |
| | PFteam | $\gamma_{05}$ | -1.27 | .80 | -1.60 | |
| | TI | $\beta_{0j}$ | .40 | .13 | 2.96** | |
| | DB | $\beta_{0j}$ | .03 | .13 | .26 | |
| | AB | $\beta_{0j}$ | -.25 | .06 | -4.29*** | |
| | SS | $\beta_{0j}$ | .31 | .12 | 2.60* | |
| | PF | $\beta_{0j}$ | -.06 | .12 | -.55 | |
| | Random Effect | Parameter | Variance component | *df* | $\chi^2$ | Reliability |
| | ATGS | $\sigma^2_{u0}$ | .19 | 20 | 77.23*** | .73 |
| | Residual | $\sigma^2_e$ | .80 | | | |

*Note.* ATGS = Individual Attractions to the Group – Social. TIteam = team perceptions of Training and Instruction, DBteam = team perceptions of Democratic Behavior, ABteam = team perceptions of Autocratic Behavior, SSteam = team perceptions of Social Support, PFteam = team perceptions of Positive Feedback. TI = individual perceptions of Training

and Instruction, DB = individual perceptions of Democratic Behavior, AB = individual perceptions of Autocratic Behavior, SS = individual perceptions of Social Support, PF = individual perceptions of Positive Feedback.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5

Perceptions of athlete leadership behaviors on group integration – task

| GIT | Fixed Effect | Parameter | Coefficients | *SE* | T-ratio | |
|---|---|---|---|---|---|---|
| | Intercept | $\beta_{0j}$ | 6.74 | .13 | 53.84*** | |
| | TIteam | $\gamma_{01}$ | -.48 | .44 | -1.10 | |
| | DBteam | $\gamma_{02}$ | .00 | .47 | .00 | |
| | ABteam | $\gamma_{03}$ | -.57 | .58 | -1.00 | |
| | SSteam | $\gamma_{04}$ | .55 | .58 | .95 | |
| | PFteam | $\gamma_{05}$ | -1.42 | 1.26 | -1.13 | |
| | TI | $\beta_{0j}$ | .77 | .15 | 5.01*** | |
| | DB | $\beta_{0j}$ | .22 | .14 | 1.55 | |
| | AB | $\beta_{0j}$ | -.35 | .10 | -3.69*** | |
| | SS | $\beta_{0j}$ | .27 | .13 | 2.17* | |
| | PF | $\beta_{0j}$ | .18 | .10 | 1.75 | |
| | Random Effect | Parameter | Variance component | *Df* | $\chi^2$ | Reliability |
| | GIT | $\sigma^2_{u0}$ | .44 | 20 | 132.79*** | .85 |
| | Residual | $\sigma^2_e$ | .88 | | | |

*Note.* GIT = Group Integration – Task. TIteam = team perceptions of Training and Instruction, DBteam = team perceptions of Democratic Behavior, ABteam = team perceptions of Autocratic Behavior, SSteam = team perceptions of Social Support, PFteam = team perceptions of Positive Feedback. TI = individual perceptions of Training

and Instruction, DB = individual perceptions of Democratic Behavior, AB = individual perceptions of Autocratic Behavior, SS = individual perceptions of Social Support, PF = individual perceptions of Positive Feedback.

* $p < .05$, *** $p < .001$.

Table 6

*Perceptions of athlete leadership behaviors on group integration – social*

| GIS | Fixed Effect | Parameter | Coefficients | *SE* | T-ratio | |
|---|---|---|---|---|---|---|
| | Intercept | $\beta_{0j}$ | 6.23 | .20 | 31.11*** | |
| | TIteam | $\gamma_{01}$ | -.23 | .82 | - .28 | |
| | DBteam | $\gamma_{02}$ | -.69 | 1.01 | - .68 | |
| | ABteam | $\gamma_{03}$ | -1.57 | 1.03 | -1.53 | |
| | SSteam | $\gamma_{04}$ | 1.35 | 1.13 | 1.19 | |
| | PFteam | $\gamma_{05}$ | -2.17 | 2.20 | -.99 | |
| | TI | $\beta_{0j}$ | .52 | .19 | 2.67** | |
| | DB | $\beta_{0j}$ | .03 | .14 | .20 | |
| | AB | $\beta_{0j}$ | -.42 | .10 | -4.08*** | |
| | SS | $\beta_{0j}$ | .54 | .15 | 3.63** | |
| | PF | $\beta_{0j}$ | .07 | .14 | .51 | |
| | Random Effect | Parameter | Variance component | *df* | $\chi^2$ | Reliability |
| | GIS | $\sigma^2_{u0}$ | 1.21 | 20 | 203.19*** | .90 |
| | Residual | $\sigma^2_e$ | 1.43 | | | |

*Note.* GIS = Group Integration – Social. TIteam = team perceptions of Training and Instruction, DBteam = team perceptions of Democratic Behavior, ABteam = team perceptions of Autocratic Behavior, SSteam = team perceptions of Social Support, PFteam = team perceptions of Positive Feedback. TI = individual perceptions of Training

and Instruction, DB = individual perceptions of Democratic Behavior, AB = individual perceptions of Autocratic Behavior, SS = individual perceptions of Social Support, PF = individual perceptions of Positive Feedback.

** $p < .01$, *** $p < .001$.

# LITERATURE REVIEW

The purpose of the present thesis was to examine the relationship between athlete leadership behaviors and perceptions of cohesion. The review of literature will be divided into three parts (a) cohesion, (b) leadership, and (c) athlete leadership.

## Cohesion

Initially, the construct of cohesion will be defined and its characteristics will be discussed. Next, a conceptual model of cohesion and the measurement of cohesion will be explained. Finally, Carron's (1982) conceptual framework for the study of cohesion will be presented.

### *Definition and Characteristics of Cohesion*

One of earliest definitions of cohesion was advanced by Festinger, Schachter, and Back (1950), who defined cohesion as the total field of forces that act on group members to remain in a group. The field of forces that were believed to capture cohesion was the attractiveness of the group and the extent to which the group mediated their collective goals (Paskevich, Estabrooks, Brawley, & Carron, 2001). Due to the fact that there are a plethora of reasons why members may be attracted to a group, several researchers highlighted the major limitation of this definition. That is, the "total field of forces" meant that all possible forces needed to be identified and measured (Gross & Martin, 1952; Mudrack, 1989). Consequently, Gross and Martin argued that cohesion required an operational definition that overcame this shortcoming. Instead, they defined cohesion as the group's resistance to disruptive forces. However, there was a problem with this operational definition. By defining cohesion as a unidimensional construct, it did not allow researchers to examine cohesion as a multidimensional construct and, therefore, the

generalizability of results was limited (Loughead & Hardy, 2006). Finally, these operational definitions (i.e., Festinger et al.; Gross & Martin) inhibited the integration of empirical findings (Cota, Evans, Dion, Kilik, & Longman, 1995). Consequently, it was highlighted that an alternate definition was required to demonstrate the multidimensional aspects of cohesion (Mudrack).

Carron (1982) suggested that one of the reasons cohesion had failed to be viewed as a multidimensional construct was that previous definitions did not take into account both task and interpersonal behaviors of the group members as a whole. In order to overcome this shortcoming, Carron defined cohesion as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives" (p. 124). Several years later, Carron, Brawley, and Widmeyer (1998) revised the definition by adding an affective component. Consequently, cohesion was defined as "a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (p. 213).

The revised definition of cohesion highlighted four important characteristics. The first characteristic was that cohesion is a multidimensional construct. There are various factors that cause a group to stick together and these may not be of equal weight in another apparently identical group (Loughead & Hardy, 2006). For example, one individual may stay with a team to create and maintain friendships, whereas another individual may stick with a team to win a championship. The second characteristic of cohesion is that it is dynamic in nature. Cohesion is not as transient as a state, it is also not as unwavering as a trait (Carron et al., 1998), which means that cohesion can change over time, but also remain stable. For instance, in the beginning of a season task cohesion

may be important while the team works towards its goals and objectives. However, as the season progresses, social cohesion may also develop as teammates get to know one another and form friendships. The third characteristic of cohesion is that it is instrumental in nature. That is, teams come together for a specific purpose. Most sport teams form for task oriented reasons. Even groups that are formed for social reasons have an instrumental (task) basis for their formation (Carron et al., 1998). Lastly, the fourth characteristic of cohesion is its affective nature. Interpersonal relationships may exist at the formation of a group or may evolve over time and are important to the maintenance of cohesion within a group (Carron et al., 1998).

*Conceptual Model and the Measurement of Cohesion*

Following the definition advanced by Carron (1982), it was necessary to develop a conceptual model of cohesion that took into account its multidimensional nature (see Appendix B). Carron, Widmeyer, and Brawley (1985) argued that a conceptual model of cohesion needed to consider both the individual and group perceptions of cohesion, and differentiate between the group's task and social aspects. More specifically, in the development of the conceptual model, Carron et al. (1985) assumed that each team member had thoughts about both the cohesiveness of the group as a whole, as well as their own individual perceptions of their team. Therefore, Carron et al. (1985) labeled this distinction as "Individual Attractions to the Group" and "Group Integration". On the one hand, Individual Attractions to the Group was viewed as "the interaction of the motives working on the individual to remain in the group" (Carron et al., 1985, p. 248). On the other hand, Group Integration was conceptualized as "the category that represents the closeness, similarity and bonding within the group" (Carron et al., 1985, p. 249).

As noted above, Carron et al. (1985) also advocated that the conceptual model of cohesion distinguishes between the group's task and social aspects. Task cohesion can be viewed as the achievement of the goals and objectives of the team. Social cohesion refers to the development and maintenance of social relationships within the group. From these two distinctions (i.e., individual vs. group; task vs. social), four dimensions of cohesion were identified: Individual Attractions to the Group - Task, Individual Attractions to the Group - Social, Group Integration - Task, and Group Integration - Social. The Individual Attractions to the Group - Task refers to individual team member's feelings about his/her personal involvement concerning the group's productivity and goals. Individual Attractions to the Group - Social is viewed as individual team member's feelings about his/her personal acceptance and social interactions within the team. Group Integration - Task refers to the individual team member's feelings about the similarity, closeness, and unity within the group as a whole around the team's task objectives. Finally, Group Integration - Social refers to the individual team member's feelings about the similarity, closeness, and unity concerning the team as a social unit.

Using this conceptual model as a guide, Carron et al. (1985) developed a 18-item measurement tool that tapped into these four dimensions of cohesion, entitled the Group Environment Questionnaire. The Individual Attractions to the Group - Task scale contains four items and an example is, "I'm happy with how much my team wants to win". The Individual Attractions to the Group - Social subscale has five items and an example item is, "Some of my best friends are on this team." The Group Integration - Task scale is comprised of five items and a sample item is, "Our teammates have different goals for how we want the team to play." Finally, the Group Integration - Social subscale contains four items and an example item is, "Our team would like to spend time together in the off

season." All of the Group Environment Questionnaire items are scored on a 9-point Likert scale, which ranges from 1 (*strongly agree*) to 9 (*strongly disagree*). Higher scores on the Group E nvironment Questionnaire, represent an individual's higher perception of cohesion. Following the development of the Group Environment Questionnaire, subsequent research has shown that it has adequate reliability and validity. In particular, research has demonstrated that the Group Environment Questionnaire is internally consistent (Carron et al., 1985), demonstrates content (Carron et al., 1985), concurrent (Brawley, Carron, & Widmeyer, 1987; Paskevich et al., 2001), predictive (Carron, Widmeyer, & Brawley, 1988), and factorial validity (Carron et al., 1985).

*Conceptual Framework for the Study of Cohesion*

Carron (1982) advanced a linear model for the study of cohesion that consists of antecedents (inputs), throughputs (cohesion) and consequences (outputs) (see Appendix A). Given the throughput of cohesion (Individual Attractions to the Group – Task, Individual Attractions to the Group – Social, Group Integration – Task, and Group Integration – Social) has already been addressed in detail in the previous section, the following section of the literature review will examine the antecedents and consequences of cohesion.

*Antecedents of cohesion.* Carron's (1982) conceptual model for the study of cohesion contains four factors hypothesized to influence cohesion. The four antecedents are categorized into environmental, personal, team, and leadership factors. Each of these factors will now be discussed.

Carron (1982) identified two different types of environmental factors: organizational orientation and contractual responsibility. Organizational orientation

consists of variables such as age and maturity of athletes that can influence perceptions of cohesion. Contractual responsibility refers to the eligibility of the athlete.

Carron (1982) noted that it would be nearly impossible to list all of the personal factors that may affect cohesion on sport teams. However, Carron did note that previous research has shown that variables such as motivation, status, sex, religion, satisfaction, mood, and work output did have an influence on cohesion (Carron, 1982; Carron, Hausenblas, & Eys, 2005; Loughead & Hardy, 2006).

The aforementioned categories are major contributors to the most specific category of moderating variables, team factors. Team factors include, but are not limited to, group norms, team stability, group orientation and collective efficacy and are hypothesized to influence the nature of cohesion (Carron,1982; Carron et al., 2005). Group norms have been shown to be positively related to task cohesion. That is, when groups are high in task cohesion, they show a high level of conformity to the team's expectations (Prapavessis & Carron, 1997). Another factor that influences group cohesion is team stability, which is the duration that a team is required to remain as a unit. The longer the team is together, the more potential for increases in both task and social cohesion (Carron). Finally, collective efficacy has been found to impact the level of group cohesion on a sport team. Given that collective efficacy refers to a perception of collective competence during a particular situation it is obvious that cohesion would increase as did the collective efficacy of the team (Zaccaro, Blair, Peterson, & Zananis, 1995).

The final antecedent for the conceptual model is leadership. The leadership factor is comprised of such factors as leader behaviors and leadership style (Schriesheim, 1980), the coach-athlete relationship (Carron & Chelladurai, 1981), the coach-team relationship

(Schachter, Ellertson, McBride, & Gregory, 1951), and athlete leadership (Loughead, Hardy, & Eys, 2006). Given that leadership is a major component of this thesis, there will be an extensive literature review following the consequences of cohesion.

*Consequences of cohesion.* Research from sport has shown that the four most studied consequences of cohesion are performance (Carron, Colman, Wheeler, & Stevens, 2002), athlete satisfaction (Widmeyer & Williams, 1991), intention to return (Spink 1995, 1998), and perceived belonging (Allen, 2006). Each of these will now be discussed.

Carron et al. (2002) performed a meta-analysis to examine the cohesion-performance relationship in sport. Using a total of 46 studies, the results indicated that there was a moderate (ES = .66) cohesion-performance relationship. Additionally, Carron et al. (2002) also examined several moderating variables, such as the source of data, type of cohesion measure, sport type, gender, performance measures, direction of the relationship, cohesion type by direction and level of competition. It was found that only the source of data and gender moderated the cohesion-performance relationship. More specifically, there was a significant difference between refereed and unpublished manuscripts. Although, when only research involving the Group Environment Questionnaire was included in the analysis, no difference was shown. Gender was also shown as a moderating variable. There was a large cohesion-performance relationship evident for female athletes and only a moderate relationship present for male athletes, or teams.

Widmeyer and Williams (1991) investigated variables, such as members' satisfaction, team membership, similarity of members, coaches' efforts to foster cohesion, prior team success, existence of team goals, importance of team goals, participation in establishing team goals, intrateam task communication and athlete satisfaction, which

were believed to predict cohesion. Participants consisted of 85 varsity female golfers. It was found that the best predictor of cohesion was athlete satisfaction. More specifically, athlete satisfaction was found to hold a relationship with each of the four dimensions of cohesion (Widmeyer & Williams). More recently, Lowther and Lane (2003) performed a study to examine the relationships between group cohesion, mood and satisfaction of performance in a soccer team. Participants consisted of a collegiate soccer team from Britain. Results indicated that higher levels of cohesion increased the athletes' mood and in turn increased athletes' satisfaction with their performance.

The intention for athletes to return to their sport the following year has also been found to be a consequence of cohesion. Spink (1995) examined whether perceptions of cohesion of female ringette players influenced their intention to return to their team the following season. The results showed that individuals who had high perceptions of group social cohesion (Individual Attractions to the Group - Social, Group Integration - Social) were more likely to return the following season than those with lower perceptions of social cohesion. Furthermore, Spink (1998) investigated whether social cohesion mediated the relationship between coach leadership and the intention for athletes to return to their sport the following season. Similarly, Spink (1998) sampled female ringette athletes and found that coaches who exhibited high levels of Training and Instruction behavior influenced the intention to return to sport through the mediating variable of the Individual Attractions to the Group - Social dimension of cohesion.

Finally, perceived belonging has been shown to be a consequence of cohesion. Perceived belonging can be referred to as an athletes' sense that they are included and accepted for who they are (Allen, 2006). Allen examined the relationship between cohesion and perceived belonging. Participants were 259 university students with ranging

sporting experience. It was found that perceived belonging was related to both dimensions of social cohesion (Individual Attractions to the Group - Social and Group Integration - Social). That is, the more individuals feel they have friends and belong to a group, the higher the perception of social cohesion.

## Leadership

This section of the thesis will review the literature concerning leadership. First, the construct of leadership will be defined. Next, a conceptual model and measurement tool will be explained. Finally, an examination of literature using this aforementioned measurement tool will be provided.

### *Definition and Characteristics of Leadership*

In the last five decades, there have been as many as 65 different definitions of leadership (Northouse, 2004). Early research viewed leadership as an act that was based on manipulation, persuasion, and coercion of followers. However, more recent definitions have been more positive in nature alluding to the fact that leaders assist followers in the achievement of the goals of the group (Borrow, 1977; Murray, 1986; Northouse; Stogdill, 1974). For instance, Murray defined leadership as "the behavioral process of influencing the activities of an organized group toward specific goals and the achievement of those goals" (pp. 93-94). Similarly, Northouse defined leadership as "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). A common element to these definitions is that leadership is viewed as an act or behavior. That is, leaders attempt to bring about change in their group or team.

### *Model for the Study of Leadership in Sport*

Using the perspective that leadership can be viewed as an act or behavior, Chelladurai (1978, 1993) advanced a model for the study of leadership in sport (see

Figure 3). To date, the Multidimensional Model of Leadership is one of the most widely used models for the examination of leadership in sport. The development of a specific model for sport was deemed necessary since several authors (e.g., Chelladurai & Carron, 1978; Terry & Howe, 1984) argued that general leadership models may not be appropriate for the study of leadership in sport. The reason being, sport teams may possess unique characteristics, making educational and industrial leadership theories less effective in the study of sport leadership. The Multidimensional Model of Leadership was developed based on the following leadership theories; the contingency model of leadership effectiveness (Fiedler, 1967; Fiedler & House, 1988), the path goal theory of leadership (Evans, 1970; House, 1971; House & Dressler, 1974), and the discrepancy model of leadership (Yukl, 1971).

The contingency theory is based on a leader-match theory, such that the leader is most effective when their leadership style matches the correct setting, taking into consideration both personality and group characteristics. Fiedler (1967) investigated a leader's style, situation and effectiveness in military settings. Leadership style was divided into two categories: task motivated and relation motivated. The task motivated leadership style focuses on achieving a goal. Relation motivated leadership style is related to the individual developing or maintaining interpersonal relationships. Fiedler split the situational factors into three factors: leader-member relations, task structure and position power. Leader-member relations is based on the confidence, loyalty, and attraction that the group members feel towards their leaders. Task structure is referred to as the extent that the requirements of the tasks are explained to the group members. Finally, position power is based on the amount of power that leader has to positively or negatively reinforce their group.

Next, the path goal theory (Evans, 1970) was another theory used to aid in the development of the Multidimensional Model of Leadership. The path goal theory refers to how the leader motivates their group members to achieve their predetermined goals. The ultimate goal of this theory is that the emphasis is on enhancing employee performance, and satisfaction while focusing on member motivation (Evans; House, 1971; House & Dessler, 1974). In contrast to the contingency theory, where the leader style is matched to the work situational characteristics of a work setting, the path goal theory matches the leader's style to the characteristics of the group members and the work setting (Northouse, 2004).

House and Mitchell (1974) indicated that a leader's effectiveness is based on leader behaviors, such as directive, supportive, participative and achievement- oriented. Directive leader's behavior is referred to as the leader giving clear instruction about their task. Supportive leader's behavior is classified as the leader being kind and approachable to their group members. These leaders make the tasks at hand enjoyable and pleasurable for their team members. Next, participative leader's behavior is when leaders allow their group members to be involved in the decision making process and taking their thoughts and opinions into consideration. Finally, achievement-oriented leader behavior refers to the leader challenging the team members to perform to the best of their ability. This type of leader sets high standards and continuously strives for group performance improvement (Northouse, 2004). Considering the aforementioned factors of the path goal theory, it is evident that this theory suggests that the leader behavior should be selected based on the needs and the situation of the group, in order to motivate their team to achieve their predetermined goals.

The final theory that contributed to the Multidimensional Model of Leadership was Yukl's (1971) discrepancy model of leadership. This theory explains how leader behavior, situational variables and intermediate variables interact to determine productivity and satisfaction. The model follows three main hypotheses: 1) the member's satisfaction with their leader is a function of discrepancy between the actual leader behavior and the preference of the team member, 2) the team member's preferences are determined by his/her personality and any situational variables that may be present, and 3) team members usually prefer a high degree of leader consideration and this results in a positive relation and subordinate satisfaction.

These aforementioned theories were used to guide the development of the Multidimensional Model of Leadership, which is a linear model comprised of antecedents, leadership behaviors, and outcomes. The antecedents consist of situational characteristics, leader characteristics, and member characteristics. Situational characteristics are referred to as the specific demands of the situation such as, group norms, and the composition of the group (Chelladurai, 2007). Whereas, leader characteristics are the leader's personal characteristics, such as their personality, age, or experience (Chelladurai, 2007). Finally, member characteristics consist of the team member's personal characteristics; for example cultural background, ability, maturity, and age.

The leader behavior component of the Multidimensional Model of Leadership is categorized into three types of behaviors: required, perceived, and preferred. Required leader behavior refers to behaviors that are needed for a particular situation. This required behavior is influenced by the antecedents of situational characteristics and member characteristics (Chelladurai, 2007). The perceived leader behavior is how the leader

behaves through the influence of leader characteristics, the required leader behavior, and the preferred leader behavior (Chelladurai & Carron, 1978). Finally, preferred leader behavior is also impacted by both situational and member characteristics (Chelladurai, 1990).

Chelladurai (1978) specified two outcomes of leadership behaviors in the Multidimensional Model of Leadership; team member satisfaction and performance. More recently, Andrew and Kent (2007) found that athlete commitment and motivation could also be viewed as outcome variables in this model. It is also important to note that the outcomes provide a feedback loop to the perceived leader behavior construct.

*The Leadership Scale for Sports*

In order to examine the hypothesized relationships in the Multidimensional Model Leadership, Chelladurai and Saleh (1980) developed the Leadership Scale for Sports. The Leadership Scales for Sport consists of 40 items measuring five dimensions of leader behavior: Training and Instruction; Democratic Behavior; Autocratic Behavior; Social Support and Positive Feedback. Training and Instruction refers to the leader behavior that is directed to improve the athlete's skills, techniques, and to structure the athlete's training activities (Chelladurai, 2007). Training and Instruction consists of 13 items, where an example item is, "My coach pays special attention to correcting athlete's mistakes". Democratic Behavior allows members to have a more intricate role in decision making regarding the group's goals, strategies, and practice methods (Chelladurai, 2007). This dimension is comprised of nine items and an example is "My coach encourages athletes to make suggestions for ways of conducting practices." Next, Autocratic Behavior is described as the coach making independent decisions and expressing their authority (Chelladurai, 2007). It is made up of five items and a sample item is "My coach

speaks in a manner that is not to be questioned." Social Support refers to the leader's concern for the athlete's personal welfare, positive group atmosphere, and harmonious interpersonal relationships among team members (Chelladurai, 2007). Eight items comprise the Social Support subscale where an example item is "My coach looks out for the personal welfare of the athletes". Finally, Positive Feedback is viewed as the leader's behavior that rewards and recognizes superior performance (Chelladurai, 2007). This dimension consists of five items. An example item is "My coach compliments an athlete for his performance in front of others."

All of the Leadership Scale for Sport items are measured on a five point Likert scale that ranges from 1 (*never*) to 5 (*always*). The Leadership Scale for Sport can be modified to examine the preferred and perceived leadership behaviors by changing the stem preceding the items (Chelladurai, 1990). The stem for the preferred is "I prefer my coach to…" On the other hand, the perceived stem is "My coach…" It is important to note that required leader behaviors have not been examined up to this point.

The Leadership Scale for Sport has been shown to demonstrate adequate factorial validity, content validity, convergent and discriminate validity, criterion-related validity, and test-retest reliability (Chelladurai, 1990; Chelladurai & Saleh, 1980). As well, all five dimensions of the Leadership Scale for Sport have shown adequate internal consistency (Chelladurai & Carron, 1983; Chelladurai & Saleh; Riemer & Chelladurai, 1995; Shields, Gardner, Bredemeier & Bostrom, 1997; Loughead & Hardy, 2005). However, it should be noted that the dimension of autocratic behavior has traditionally been plagued by a lower internal consistency values typically in the .60 range or higher. Thus, Amorose and Horn (2000) have suggested that a value above .60 could be deemed acceptable for scales with few items such as Autocratic Behavior. In addition, Chelladurai and Riemer (1998)

have suggested that the Autocratic dimension be strengthened by adding items that are homogeneous to this dimension. Price and Weiss (2000) used this suggested and added three items to the Autocratic dimension: "Does not take into account athletes' suggestions when making decisions", "Controls what athletes can do and can not do", and "Makes decisions regardless of what athletes think". The inclusion of these three items raised the internal consistency value to .71.

*Research Using the Leadership Scale for Sports*

*Satisfaction and performance.* The majority of research examining leadership behaviors in sport has shown that it is positively related to the satisfaction and performance of team members. For instance, Weiss and Friedrichs (1986) examined the relationship of coach leadership behaviors to the outcomes of performance and athlete satisfaction using varsity basketball players. The results showed that leader behaviors were predictive of the win/loss record of a team and the team satisfaction. Specifically, the two leader behavior dimensions that were the strongest predictors were Democratic Behavior and Social Support in regard to performance. In addition, Autocratic Behavior was found to be a significant predictor of athlete satisfaction.

Riemer and Chelladurai (1995) also examined leader behaviors and athlete satisfaction using football athletes. The results indicated that defensive players preferred more Democratic decision making behavior and Social Support then offensive players did. This makes sense as the defensive players often know what is expected from the actions of their opponents, meaning that their coaches need to remain democratic and allow the player to make quick decisions on the field, whereas offensive players do not require such behavior (Riemer & Chelladurai). Furthermore, results showed that satisfaction was the highest in regards to Social Support when perceived and preferred

behavior were in congruence, whereas satisfaction was lowest when the athletes' perceptions were different from the preferred leader behavior. It was found that there were no significant differences between the two groups of players (defensive and offensive) in regard to Training and Instruction and Positive Feedback. Similarly, Dwyer and Fisher (1990) showed that wrestlers were more satisfied with their coaches when they exhibited higher levels of Positive Feedback and Training and Instruction, as well as low levels of Autocratic Behavior. Furthermore, Democratic Behavior and Social Support were not found to be related to athlete satisfaction. Finally, Andrew and Kent (2007) found that Social Support had a positive impact on individual team member satisfaction. However, contrary to previous research, they found that Democratic leader behavior had a negative impact on athlete satisfaction.

Performance has been another important outcome variable in the study of sport leadership. Garland and Barry (1990) found athletes who perceived their coaches to administer more Training and Instruction, Social Support, Positive Feedback, Democratic decision making behavior and less Autocratic decision behavior were associated with higher levels of performance.

*Commitment.* More recently, commitment has been examined as another consequence of leader behavior. In a recent study, Andrew and Kent (2007) found that perceived leadership behavior influenced an athlete's commitment. More specifically, it was shown that Positive Feedback and Social Support had a positive influence on whether the athletes opted to continue their sport participation. This is in congruence with the results of Price and Weiss (2000), who found coaches who showed lower levels of Positive Feedback, Social Support and Democratic leader behaviors had athletes with lower sport enjoyment.

*Motivation.* It has been hypothesized that an athletes' motivation can be influenced by their coach's behaviors (Andrew & Kent, 2007). These authors found that perceived Autocratic decision making behavior decreased an athletes' extrinsic motivation. This lack of motivation tends to lead athletes to burnout. Furthermore, Positive Feedback and Social Support influenced extrinsic motivation, whereas, Training and Instruction influenced intrinsic motivation.

*Maturity.* Maturity is another variable that is believed to be influenced by leader behaviors. Chelladurai and Carron (1983) performed a study to determine how preferred leadership behaviors influence athletic maturity. The results indicated that athletes at a higher level of experience prefer more Training and Instruction then their less experienced counterparts. More specifically, high school level athletes tend to prefer less control from their coaches and more personal interaction with their coach, than university athletes. Furthermore, athletes at a higher level of competition enjoy more Social Support from their coaches then the less experienced high school athletes.

*Cohesion.* Finally, there has been some research examining the relationship between leadership and cohesion. Shields et al. (1997) determined that the internal consistency for the Group Environment Questionnaire was moderate and collapsed the four dimensions into two, task and social. This is a major limitation to this study given it has been previously found that the Group Environment Questionnaire is internally consistent and, therefore, it is important to test each of the four dimensions of the measurement tool. The results show that leadership behaviors were related to team cohesion. More specifically, task cohesion was found to be related to the coaching behaviors of Training and Instruction, Social Support, Democratic decision making behavior, and Positive Feedback. In regards to social cohesion, it was found that there

was a significant relationship between the leadership behaviors regarding what the athlete believes the leader is doing for the team and what the athlete believes the leader should be doing for the team and cohesion.

More recently, Jowett and Chaundy (2004) examined the coach behavior-cohesion relationship in a variety of interdependent sports, using incollegiate athletes from a University in Britain. For the purpose of this study, task and social cohesion were collapsed, due to low internal consistency values. The results showed that training and instruction, democratic behavior, social support and positive feedback influenced both task and social cohesion. Finally, it was found that the coach's effort should be placed on the development of task cohesion, rather than social.

## Athlete Leadership

This section of the thesis will review the literature pertaining to athlete leadership. First, athlete leadership will be defined. Following this, a review of the research in athlete leadership will be discussed.

### *Definition of Athlete Leadership*

Before advancing a definition of athlete leadership, it would be important to discuss some of the factors that influenced the development of this definition. In a review of the various definitions of leadership, Northouse (2004) identified four characteristics that were central to the construct of leadership. The first characteristic of leadership is that it is a process, meaning that leadership is neither a trait nor a characteristic of a person, but is an event that occurs between leaders and followers. When viewing leadership as a process, leadership roles become available to all group members, suggesting the role is not restricted to only the designated leader of the group. The second characteristic is that leadership involves influence. That is, leadership is concerned with

how the leadership can affect their followers. If individuals are unable to influence their teammates, there is no leadership role present. The third characteristic of leadership is that it occurs in a group. Leadership occurs in groups who come together with a common purpose. The attention to goals is the fourth characteristic. This refers to a leader who initiates communication within the team, initiates relationships, and carries the burden of maintaining relationships between teammates.

Based on these characteristics, Loughead et al. (2006) advanced a definition pertaining to athlete leadership. They defined athlete leadership as "an athlete occupying a formal or informal role within a team, who influences team members to achieve a common goal" (p. 144). This definition of athlete leadership acknowledges that athlete leaders could be classified along two lines: formal or informal. A formal leader is classified as an individual who is prescribed as a leader by the organization or the group such as a team captain. On the other hand, an informal leader as an individual who has developed that role based on the interactions between themselves and their teammates (Carron et al., 2005).

*Athlete Leadership Research*

Early research in athlete leadership was sparse and sporadic. Some of the early studies examined the emergence of leadership, interpersonal attraction, and the differentiation between instrumental and expressive leadership (e.g., Rees & Segal, 1984; Tropp & Landers, 1979). Tropp and Landers examined the relationships between the interactional centrality in an athlete's playing position and the emergence of leadership. Participants for this study were field hockey players. Results for this study showed that there were differences in leadership emergence between low, moderate and high interactors with goalies included in the analysis, however these differences disappeared

when the goalies were taken out of the analysis. Because of this finding, it was proposed that the emergence of leadership is related to the nature of the task performed rather than the player's playing position.

Rees and Segal (1984) investigated the degree of leadership role differentiation between instrumental and expressive leadership roles. Instrumental leadership roles are referred to those involving with the completion of task goals. Whereas, expressive leadership roles are explained as those involving the internal integration of the individual group members. Participants were recruited from Division 1 NCAA football teams. It was found that several members of the groups fulfilled the roles of instrumental and expressive leaders. It was important to note that each of these participants that stood out as leaders occupied a central position on their team, suggesting they were more likely to be starters and held center positions. Also, those athletes who were task leaders were high in formal status, whereas the social leaders maintained high and medium formal status. Although they may have had a lower formal status, they had tenure on their team (Rees & Segal).

These studies were some of the first to examine the construct of athlete leadership. It is important to note there were some limitations to this body of knowledge. First, Rees and Segal (1984) did not have a clear definition of athlete leadership, making it difficult to understand exactly what aspect of leadership they were investigating. Also, leadership was not measured using any sort of standardized measurement scale. Athletes were asked to list the five best players on their team and the five players who contributed to the harmony of their team. Finally, the previous research was conducted using only one sport, making it difficult to generalize results.

Recently, Loughead and colleagues (e.g., Dupuis, Bloom, & Loughead, 2006; Eys, Loughead, & Hardy, 2007; Loughead & Hardy, 2005; Loughead et al., 2006) have begun to systematically examine the construct of athlete leadership. In their first study, Loughead and Hardy (2005) compared the leader behaviors exhibited by coaches and athlete leaders. Leadership behaviors were measured using the Leadership Scale for Sport (Chelladurai & Saleh, 1980). The participants were 238 Canadian athletes in a variety of sports such as soccer, ice hockey, wrestling, and rugby. In general, the results indicated that coaches and athlete leaders differed in their leadership behaviors. On the one hand, coaches were found to exhibit more Training and Instruction and Autocratic Behaviors. On the other hand, athlete leaders tended to exhibit higher levels of Social Support, Positive Feedback, and Democratic decision making behaviors than coaches. The results from this study were important since it provided initial information indicating that coaches and athletes seem to fulfill different aspects of leadership.

Given that Loughead and Hardy (2005) found the presence of athlete leaders in sport, Loughead et al. (2006) then investigated the characteristics of these individuals. Then examined 258 varsity athletes from a variety of interdependent team sports in order to determine the characteristics of athlete leaders, the amount of athlete leadership present on these teams and, finally, to determine the stability of athlete leadership throughout an athletic season. Results indicated that formal leaders, such as team captains, were more likely to stand out as athlete leaders. Furthermore, both formal and informal leaders were most frequently third year players followed by second and fourth year players respectively. Loughead et al. (2006) provided initial evidence that approximately one quarter of athletes are viewed as an athlete leader by their teammates suggesting that athlete leadership is widespread on teams.

More recently, Eys, Loughead et al. (2007) examined the relationship between the number of athlete leaders (across three leadership functions—task, social, and external) and athlete satisfaction. A task function refers to the athlete leader assisting in the achievement of the team's goals or objectives. Social related functions refer to an athlete leader's involvement in the aid of a teammates psychosocial satisfaction. Finally, the external functions refer to an athlete leader representing the team at a meeting or media obligation. It was found that athletes who perceived a balanced number of leaders across all three functions had higher satisfaction. That is, the athletes that perceived an imbalanced number of athlete leaders across the three functions were less satisfied then their counterparts.

Given that Loughead et al. (2006) found that the majority of athlete leaders are in a formal role (i.e., team captain), Dupuis et al. (2006) examined the behaviors of team captains in the sport of ice hockey using a qualitative approach. The authors interviewed six former ice hockey captains who had been successful as captains at the varsity level. The three main categories that emerged from the qualitative data were; interpersonal characteristics and experiences, verbal interactions, and task behaviors. Interpersonal characteristics and experiences are qualities of the captains. The results showed that team captains were effective communicators, remained positive in the face of adversity, and were respectful to both teammates and coaches. Furthermore, team captains were shown to have started their athletic career early in life, acquired leadership skills from multiple sources and had maintained leadership positions on their youth sports teams. Verbal interactions were referred to as interactions with individuals associated with the team, such as communication between the coaches and the other athletes. It was important to the team captains that they created an open and trusting relationship with the coaches.

The purpose of the communication was, primarily, to allow for the transmittance of information about the team and to motivate the other athletes. Finally, task behaviors are explained as behaviors used to enhance the team climate, team norms, and team functioning. Although it was believed that more training and instruction tactics would emerge, the captains stated that task behaviors could be referred to structuring and coordinating team events, due to the fact that team captains are considered one of the players rather than a coach who administers instruction. Therefore, the researchers speculated that formal athlete leaders were mentors to their teammates by providing information, support and guidance.

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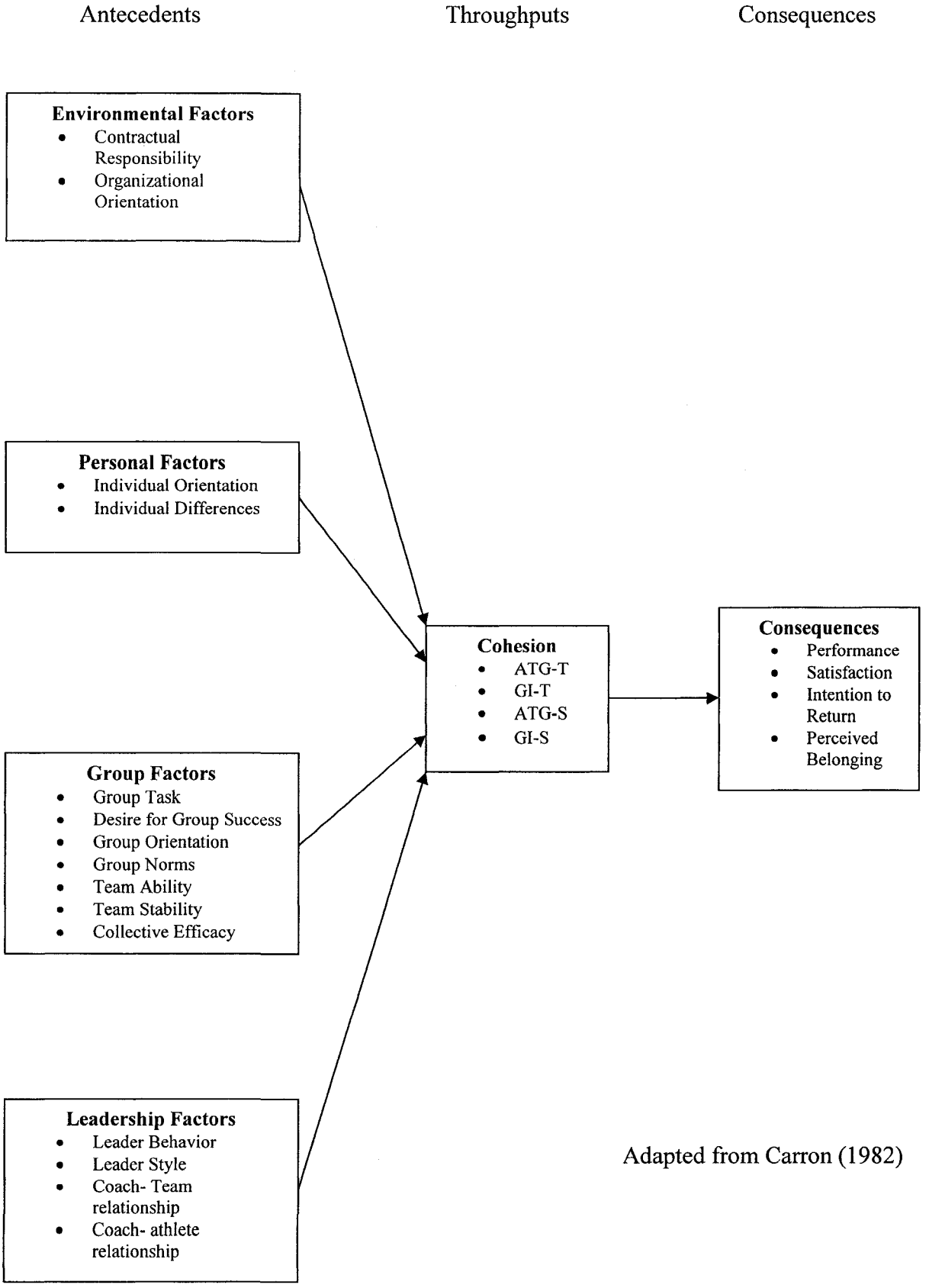
Appendix A

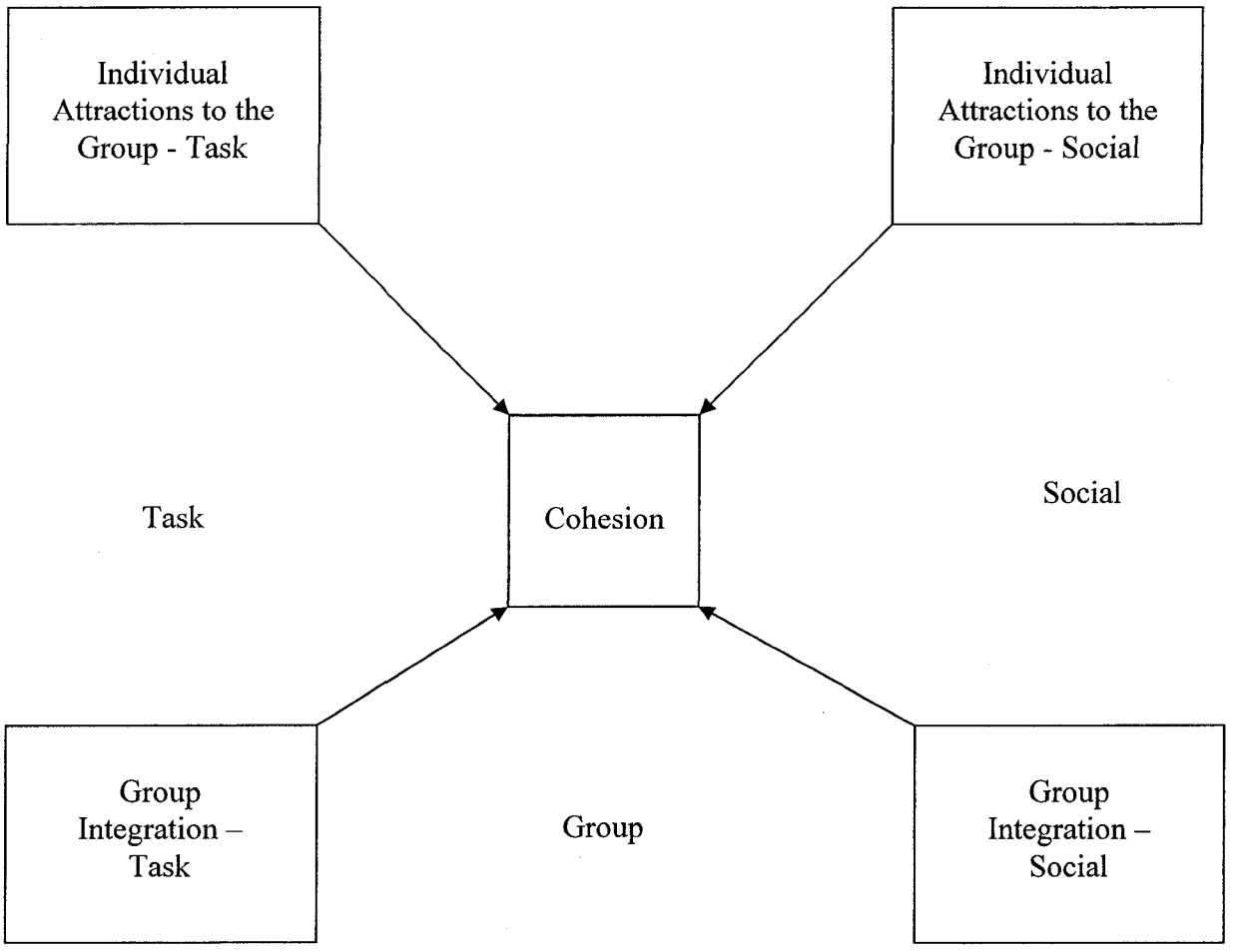
A Conceptual Framework for the Study of Cohesion in Sport




Adapted from Carron (1982)

Appendix B

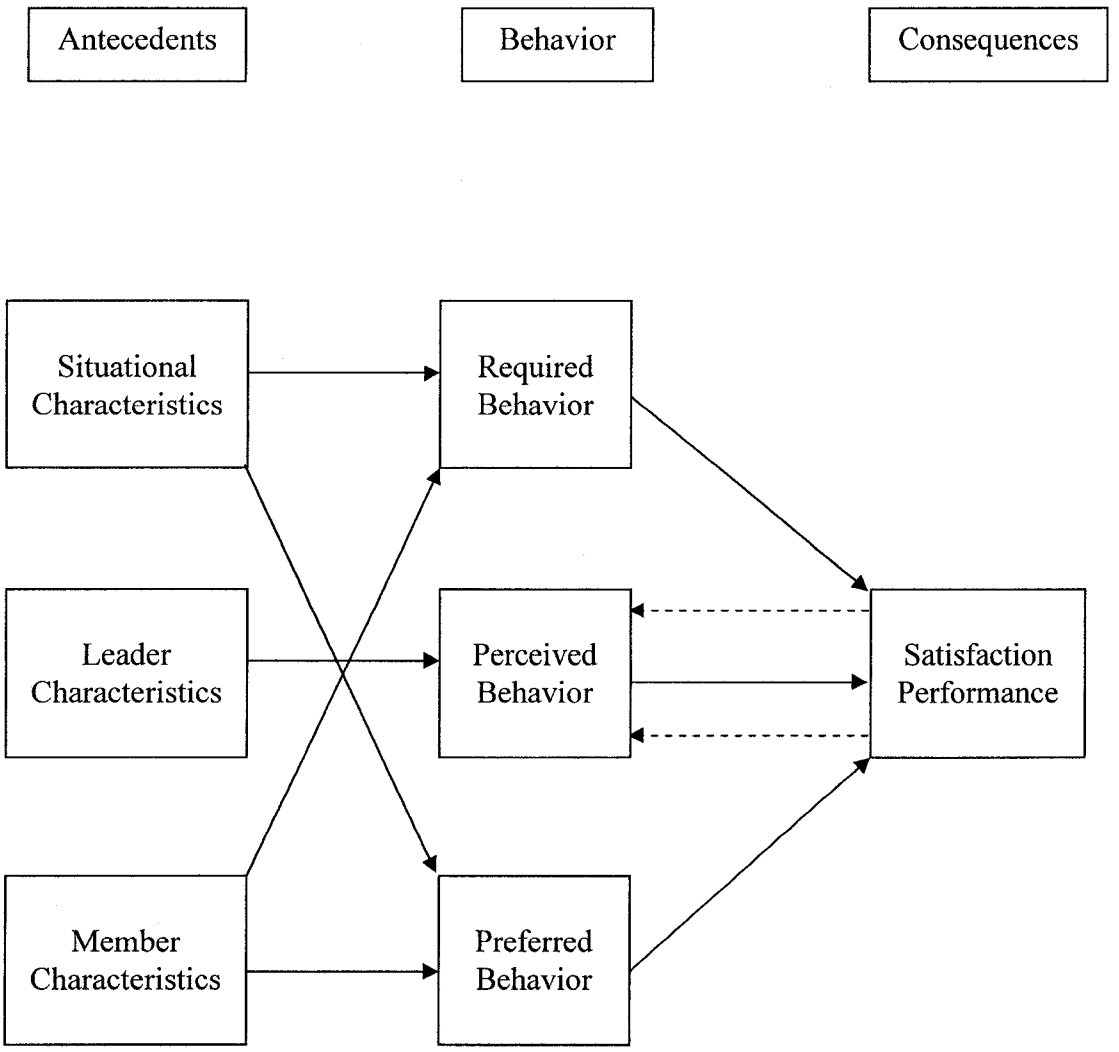
Conceptual Model for Cohesiveness in Sport




Adapted from Carron, Widmeyer, & Brawley (1985)

Appendix C

The Multidimensional Model for Leadership




Adapted from Chelladurai & Saleh (1980)

Appendix D

Demographic Questionnaire

Age: _____ yrs.

Gender: Male Female

Sport: _____ (e.g., hockey, soccer, etc.)

Level of competition: Varsity Club

Tenure on current team: _____yrs.

Experience competing in current sport: _____

Appendix E

Group Environment Questionnaire (GEQ)

This questionnaire is designed to assess your perceptions of your team. There are no wrong or right answers, so please give your immediate reaction. Some of the questions may seem repetitive, but please answer ALL questions. Your personal responses will be kept in strictest confidence.

The following statements are designed to assess your feelings about YOUR PERSONAL INVOLVEMENT with this team. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of these statements.

1. I do not enjoy being a part of the social activities of this team.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

2. I'm not happy with the amount of playing time I get.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

3. I am not going to miss the members of this team when the season ends.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

4. I'm unhappy with my team's level of desire to win.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

5. Some of my best friends are on this team.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

6. This team does not give me enough opportunities to improve my personal performance.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

7. I enjoy other parties rather than team parties.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

8. I do not like the style of play on this team.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

9. For me, this team is one of the most important social groups to which I belong.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

The following statements are designed to assess your perceptions of YOUR TEAM AS A WHOLE. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of these statements.

10. Our team is united in trying to reach its goals for performance.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

11. Members of our team would rather go out on their own than get together as a team.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

12. We all take responsibility for any loss or poor performance by our team.

1 2 3 4 5 6 7 8 9
Strongly Disagree — Strongly Agree

13. Our team members rarely party together.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

14. Our team members have conflicting aspirations for the team's performance.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

15. Our team would like to spend time together in the off season.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

16. If members of our team have problems in practice, everyone wants to help them so we can get back together again.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

17. Members of our team do not stick together outside of practice and games.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

18. Our team members do not communicate freely about each athlete's responsibilities during competition or practice.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| Strongly Disagree | | | | | | | | Strongly Agree |

Appendix F

Modified Leadership Scale for Sport (LSS)

**INSTRUCTIONS**

**Athlete leaders are team members who influence other team members. That is athlete leaders can be captains and/or other teammates. Athlete leaders are not coaches. The following questions are designed to assess your opinions about the ATHLETE LEADERS on your team. There are no right or wrong answers. Please take your time to complete the questionnaire and remember to answer the questions honestly. Thank you!**

1. How many teammates are on your team?_____

2. How many athlete leaders are on your team?_____

3. Who are the athlete leaders on your team?
   Please circle THE MOST appropriate option

   a) Captain(s)

   b) Teammates (not captains)

   c) **Both** captains and teammates

**Using the following scale, please circle a number from 1 to 5 to indicate your level of agreement with each of the statements regarding ATHLETE LEADERS on your team.**

| 1<br>**Never** | 2<br>**Seldom**<br>25% of<br>the time | 3<br>**Occasionally**<br>50% of<br>the time | 4<br>**Often**<br>75% of<br>the time | 5<br>**Always** |
|---|---|---|---|---|

The athlete leader(s) on my team…

| | Always | | | | Never |
|---|---|---|---|---|---|
| 1. See to it that every team member is working to his/her capacity. | 1 | 2 | 3 | 4 | 5 |
| 2. Explain to team members the techniques and tactics of the sport. | 1 | 2 | 3 | 4 | 5 |
| 3. Pay attention to correcting team members' mistakes. | 1 | 2 | 3 | 4 | 5 |
| 4. Make sure that team members role on the team are understood. | 1 | 2 | 3 | 4 | 5 |
| 5. Instruct team members individually in the skills of the sport. | 1 | 2 | 3 | 4 | 5 |
| 6. Figure ahead on what should be done. | 1 | 2 | 3 | 4 | 5 |
| 7. Explain to team members what they should and what they should not do. | 1 | 2 | 3 | 4 | 5 |
| 8. Expect team members to carry out their assignment to the last detail. | 1 | 2 | 3 | 4 | 5 |
| 9. Point out team members' strengths and weaknesses. | 1 | 2 | 3 | 4 | 5 |
| 10. Give specific instructions to team members as to what they should do in every situation. | 1 | 2 | 3 | 4 | 5 |
| 11. See to it that the efforts are coordinated. | 1 | 2 | 3 | 4 | 5 |
| 12. Explain how team members contributions fits into the total picture. | 1 | 2 | 3 | 4 | 5 |
| 13. Specify in detail what is expected of team members. | 1 | 2 | 3 | 4 | 5 |
| 14. Ask for the opinion of team members on strategies for specific competitions. | 1 | 2 | 3 | 4 | 5 |
| 15. Get team members approval on important matters before going ahead. | 1 | 2 | 3 | 4 | 5 |
| 16. Let fellow team members share in decision making. | 1 | 2 | 3 | 4 | 5 |

The athlete leader(s) on my team…

| | Always | | | | Never |
|---|---|---|---|---|---|
| 17. Encourage team members to make suggestions for ways of conducting practices. | 1 | 2 | 3 | 4 | 5 |
| 18. Let team members share in discussion about goals for the team as a whole (e.g., the number of wins over the following month). | 1 | 2 | 3 | 4 | 5 |
| 19. Let team members try their own way even if they make mistakes. | 1 | 2 | 3 | 4 | 5 |
| 20. Ask for the opinion of team members on important team matters. | 1 | 2 | 3 | 4 | 5 |
| 21. Let team members work at their own speed. | 1 | 2 | 3 | 4 | 5 |
| 22. Let team members decide on the plays to be used in a game. | 1 | 2 | 3 | 4 | 5 |
| 23. Work relatively independent of other team members. | 1 | 2 | 3 | 4 | 5 |
| 24. Not explain his/her/their action(s). | 1 | 2 | 3 | 4 | 5 |
| 25. Refuse to compromise a point. | 1 | 2 | 3 | 4 | 5 |
| 26. Keep to himself/herself/themselves. | 1 | 2 | 3 | 4 | 5 |
| 27. Speak in a manner not to be questioned. | 1 | 2 | 3 | 4 | 5 |
| 28. Help team members with their personal problems. | 1 | 2 | 3 | 4 | 5 |
| 29. Help team members settle their conflicts. | 1 | 2 | 3 | 4 | 5 |
| 30. Look out for the personal welfare of team members. | 1 | 2 | 3 | 4 | 5 |
| 31. Do favors for team members. | 1 | 2 | 3 | 4 | 5 |
| 32. Express care for other team members. | 1 | 2 | 3 | 4 | 5 |
| 33. Encourage team members to confide in him/her/them. | 1 | 2 | 3 | 4 | 5 |
| 34. Encourage close and informal relations with team members. | 1 | 2 | 3 | 4 | 5 |
| 35. Invite team members to his/her/their home(s). | 1 | 2 | 3 | 4 | 5 |
| 36. Compliment a team member for his/her performance in front of others. | 1 | 2 | 3 | 4 | 5 |
| 37. Tell a team member when he/she does a particularly good job. | 1 | 2 | 3 | 4 | 5 |
| 38. See that a team member is rewarded for a good performance. | 1 | 2 | 3 | 4 | 5 |
| 39. Express appreciation when a team member performs well. | 1 | 2 | 3 | 4 | 5 |
| 40. Give credit when credit is due. | 1 | 2 | 3 | 4 | 5 |

Appendix G


## LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

### The Influence of Athlete Leadership Behaviors on Team Cohesion

You are asked to participate in a research study conducted by Diana Vincer (student), under the direction of Dr. Todd Loughead (faculty), from the Department of Kinesiology at the University of Windsor. These results will be contributing to the completion of a thesis for credit towards a Master's Degree in Human Kinetics.

If you have any questions or concerns about the research, please feel to contact Dr. Todd Loughead at 519-253-3000 ext. 2450.

PURPOSE OF THE STUDY

To examine how athlete leadership behaviors influence cohesion on interdependent sport teams.

PROCEDURES

If you volunteer to participate in this study, you will be asked to participate in a survey administered and a one-time meeting by the primary investigator. It will take approximately no more than 20 minutes for the survey.

POTENTIAL RISKS AND DISCOMFORTS

There are no known risks, discomforts, or inconveniences physical or psychological associated with this research.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The information gained from this study may be used in subsequent studies. The researchers may gain valuable insight into the athlete leadership and its influence on team cohesion. Moreover, you will have the opportunity to benefit by thinking about the way athlete leaders influence cohesion on your sport team.

PAYMENT FOR PARTICIPATION

You will have the opportunity to be put in a draw for an MP3 player.

ANONYMITY

Any information that is obtained in connection with this study and that can be identified with you will remain anonymous and will be disclosed only with your permission. The information obtained from the study will not be used for any purpose other than the present research and the communication of the results. All questionnaires will be kept in a locked cabinet in the investigators' office. There is no access to this cabinet by anyone other than the investigators. Questionnaires will be kept secure and destroyed seven years after the publication of results.

PARTICIPATION AND WITHDRAWAL

Participation in this study is voluntary. You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time up and until you complete the survey. You may also refuse to answer any questions and still remain in the study. Consent is implied by selecting 'submit'.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS

The investigators will provide contact information to the subjects and the coaches of the teams used in the study, should you be interested in obtaining the results of this study. As well, the results will be posted at the University of Windsor's Research Ethics Board website by April 2008 (http://www.uwindsor.ca/reb). If you have any additional concerns or questions, you can email or call the investigators at the address or number above. Please keep this letter of information.

SUBSEQUENT USE OF DATA

This data may be used in subsequent studies.

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

# VITA AUCTORIS

| | |
|---|---|
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| EDUCATION: | University of Windsor, Windsor, Ontario<br>2006-2008, M.H.K.<br><br>Brock University, St. Catharines, Ontario<br>2002-2006, B.KIN. Hons.<br><br>Almaguin Highlands Secondary School,<br>South River, Ontario<br>1997-2002 |
| PRESENTATIONS: | "Leadership on Sports Teams: An Investigation of Athlete Leadership on Team Cohesion". Presented at Kinesiology Research Day, University of Windsor, Windsor, Ontario, April 2008.<br><br>"The Examination of Athlete Leader Behaviors on Perceptions of Team Cohesion". Presented at Eastern Canadian Sport and Exercise Psychology Symposium, Laurentian University, Sudbury Ontario, March 2008.<br><br>"The Role of Athlete Leadership in Dyadic Team Sports". Presented at North American Society for the Psychology of Sport and Physical Activity, San Diego, California, June, 2007.<br><br>"Characteristics of Athlete Leadership in Figure Skating Dyads". Presented Eastern Canadian Sport & Exercise Psychology Symposium, Queens University, Kingston, Ontario, March, 2007.<br><br>"An Investigation of Athlete Leadership in Figure Skating". Presented at Kinesiology |

Research Day, University of Windsor, Windsor, Ontario, March, 2007.

"Factors Affecting Officiating Performance". Presented Eastern Canadian Sport & Exercise Psychology Symposium, University of Ottawa, Ottawa, Ontario, March, 2006.

"The Effect of Situational Factors on the Performance of Officiating Crews". Presented at Canadian Society for Psychomotor Learning and Sport Psychology, Niagara Falls, Ontario, November, 2005.

SCHOLARLY EXPERIENCES:

SCAPPS, Niagara Falls, 2005
ESCEPS, Ottawa, 2006
ESCEPS, Kingston, 2007
NASPSPA, San Diego, 2007
SCAPPS, Windsor, 2007
ECSEPS, Sudbury, 2008

Member of NASPSPA since 2007
Member of AASP since 2007